Wooden heart

Twmpa Cycles claims its gravel bike made from wood is more than just a curiosity – it has benefits that carbon just can't match

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Bike brands are well accustomed to fielding queries about their frames' geometry, fit and handling, but Twmpa Cycles has an additional set of unique questions to contend with.

Is it strong enough? Will it rot? What happens if it breaks?

Based in the Welsh borderland town of Hay-on-Wye at the foot of the Black Mountains, Twmpa Cycles makes its bike frames from wood, or more specifically British-grown ash, and the answers to these questions reveal that the choice of material is far more than a quirky talking point.

Twmpa's founder, Andy Dix, suggests the idea for the brand grew organically, much like the wood that he painstakingly handpicks for his builds. The metaphorical seed was planted during a conversation with author Robert Penn at Hay's famous literary festival.

Penn was promoting his book *It's All About The Bike* while mooting a new project exploring the crafting of a series of objects from a single ash tree. Dix, with a 17-year career in furniture making, dovetailed perfectly with Penn's plans. Drawing on his own lifelong cycling passion, Dix initially suggested building a bike.

'Common sense prevailed,' he says. 'I had no experience building bikes, and Rob had a publishing deadline to meet. We decided on a writing desk instead – but the idea was there, and I couldn't let it go entirely.

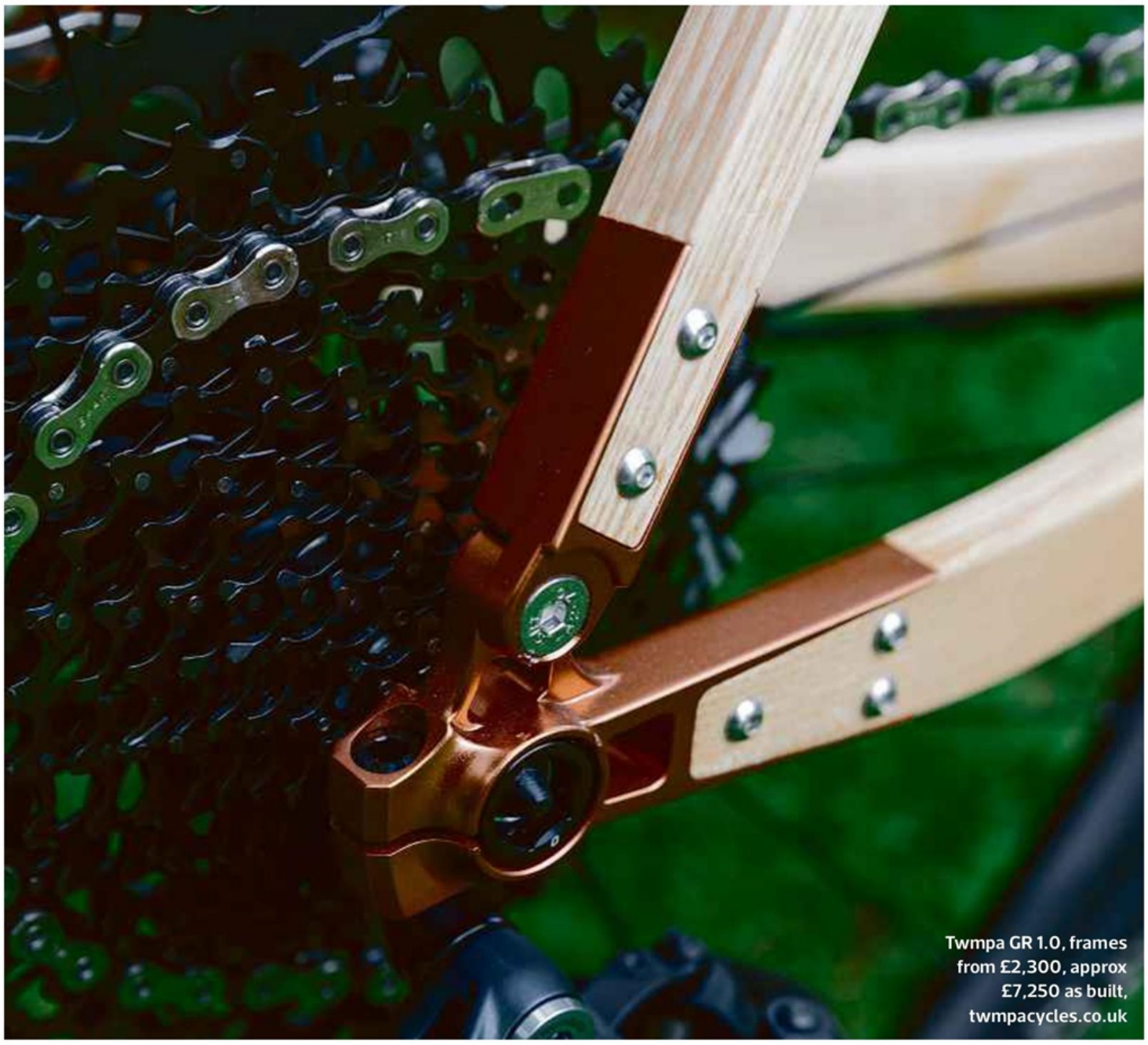
'The more I thought about it, the more sense it made to me – a woodworker, interested in bikes. I had to do it, purely for myself, and just to see if I could.'

Dix spent the next two years researching bike design, building jigs and crafting a prototype road frame by hand. The battered tarmac of mid-Wales provided the perfect testing ground, and Dix sought out the very roughest roads.

'After I'd got over the initial shock of riding half a mile without it falling apart, I realised how different this was to any other bike I'd ridden before,' he says. 'It was just so comfortable. I was gliding along, whereas on my carbon bike I'd have been shaken to bits.'

With a little more research, Dix discovered that the natural cellular structures of wood act like microscopic springs and dampers, silencing road chatter and dissipating it throughout the frame. Not only *could* he make a bike ▶

According to company founder Andy Dix, wood has natural damping properties that make it an ideal frame material for gravel bikes



Twmpa GR 1.0, frames from £2,300, approx £7,250 as built, twmpacycles.co.uk

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from wood, it had inherent advantages not found in manufactured materials.

'That was part of the penny dropping, the realisation this could be a business,' Dix says. 'The other side was the fact I took the bike to London and every time I stopped at a traffic light there would be a 10-minute conversation: how does it ride? Where can they buy one? I started to think – there's a market for this.'

Carving a niche

Dix worked with engineers at Cardiff Metropolitan University's Fablab, marrying his woodworking skills to digital design and manufacturing. He joined forces with business and marketing consultant Miguel Ferros, another avid cyclist, and the pair recently launched the Twmpa GR1.0 gravel bike.

The bike's front triangle is built monocoque-style from two opposing blanks constructed of 1.5 inch-thick ash blocks. The blanks are hollowed and shaped by a software-driven CNC router, then sandwiched together to form a tubular triangle with 5mm walls. Interior cross-lamination behind the eye-catching jigsaw joints adds strength.

The curved chainstays are shaped from multiple layers of laminated ash and, like the seatstays, are jointed to the front triangle by hand. A stainless steel insert houses the bottom bracket, and a carbon fibre sleeve provides a buffer between the head tube and fork steerer.

And because it would be sacrilege to bury the natural grain of wood beneath layers of paint, frames are finished first in multiple layers of epoxy, and finally in UV-resistant yacht varnish. The answer to 'will it rot?' is an emphatic 'no'.

The name Twmpa comes from one of the peaks above Hay, and it's clear that the GR1.0's design has this playground of weathered moor and shattered sandstone in mind. With its 1x groupset and hydraulic disc brakes, this is a bike for adventures on rough terrain.

For tarmac duties, wood may not be as light as carbon, but the GR1.0 is certainly no porker, coming in at 9.25kg in this build. To prove the point, Dix is probably the only person in the world to have ridden into the Hells 500 Everesting hall of fame on a wooden frame.

'I've ridden the bike hard for 18 months over 4,600km, and down stuff I don't intend it to be used for. I've tried really hard to break it,' he says. 'Wood is way more resistant to being knocked and buckled than steel or carbon. It's as repairable as any other frame – but less likely to need it.'

Dix had the frame subjected to three fatigue and two impact assessments, which together simulate a decade of riding. It passed with flying colours, attaining the ISO safety standard for cycle design and manufacture.

For now it's all about the GR1.0, but plans include a belt-driven commuter, a tourer and an e-bike, and Dix is eager to prove that wood is not just for dusty craftsfolk trading on misty-eyed nostalgia and rustic materials.

'Historically wood has been used to build some amazing things, but it has been eclipsed by more modern materials and we've forgotten how to exploit it,' he says. 'Wood is not just some low-grade option – it's a proper, full-on engineering material. I'd love for people to think of it in the same way they think of carbon fibre. It just happens to be grown for us.'