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Ride-able Art

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Ride-able Art



Photo by Emily Yvonne Photography



Jay Kinsinger's wooden bicycles are anything but old fashioned

By Abigail Brubaker

Despite the ubiquitous titanium and carbon fiber of 21st-century bicycles, Jay Kinsinger's wooden frames are beautiful reminders that natural materials can be just as strong and functional as their manufactured counterparts. Jay, a professor of engineering at Cedarville University, has built 15 wooden bicycle frames since 2011; he has also walked a number of other people through the process. In creating the frames, Jay brings together two of his lifelong passions: he has been working with wood since around age five and riding bicycles since he was six.

Jay's creations are hollow and weigh less than steel bike frames. However, the wooden frames have passed (and surpassed) the rigorous standards of the bicycle industry. When pressure is applied to a steel frame, it will begin to fail at 800 pounds;

Photo by Scott Huck, Cedarville University

Jay's wooden frame held out until 1,800 pounds because he carefully orients the wood grain so it is perpendicular to the stress that will be applied, assuring strength and stability. In addition to lab testing, Jay's bikes have seen many miles of use by himself and his family of cyclists, both at home and abroad. A wooden tandem bike supported Jay and his son on a cross-country camping trip, and that tandem joined four folding wooden bikes to accompany the family on a bicycle tour through Europe.

Making a wooden frame is no simple feat. Jay's first took 350 to 400 hours to complete over the course of five months; he has cut that time down to about 100 hours. He begins by creating two full-sized drawings with a computer-aided design (CAD) system, adhering the drawings to plywood or fiberboard, and cutting two templates: one for the exterior shape of the frame and one for the hollow interior cavities. For the frame itself, he prefers to use walnut, which he appreciates for its strength, lightness, and beauty. (Other varieties of wood, such as spruce, ash, hickory, and mahogany, could also be used.) Jay reinforces the frame in the two locations with bearings. After roughing in the outside with a router, Jay shapes it with chisels, rasps, files, and sanding, and then finishes it with a dozen coats of gunstock oil.

Photo by Scott Huck, Cedarville University



A professor of engineering, Jay has built 15 bicycles and teaches the craft, as well.

Why Wood?

Despite the time and effort that wood requires when compared to other materials, Jay prefers it for many reasons.

- Wood provides a huge number of design opportunities, from the many types of wood to the unlimited possibilities for shape, to the option of additions like carvings and inlays.
- Wood absorbs vibration, making for a smoother ride.
- Scratches and dings can be easily sanded away on a wooden frame; marks are much more difficult to remove from metal.
- A wooden frame can be built using basic woodworking tools, with no need for expensive welding equipment.
- As a resource, wood is sustainable: "It's hard to find anything 'greener' than a tree."
- Wood is beautiful. It can be breathtaking to see the detail of the grain come into vivid focus after sanding and finishing.

Jay's bicycles have received many awards, including two Best of Shows at the Dayton Carvers Artistry in Wood show and the Best of Show award presented by *Bicycling Magazine* at the 2014 North American Handbuilt Bicycle Show. Plus, says Jay, the frames draw a good deal of attention at bike rallies and on the street. As striking as they are durable, Jay's bicycles are a reminder that even today, wood has not lost its place as a distinctive, reliable medium.

Visit Jay online at <http://sojournercyclery.com>.

As durable as they are beautiful, Jay's bicycles surpass the standards for steel frames.

Photo by Scott Huck, Cedarville University



Photo by Emily Yvonne Photography



Jay Kinsinger has been a woodworker and a cyclist since he was a young boy.