



Botrea Stairs, located near St. Just in West Penwith, Cornwall, about six miles from Land's End, is probably the most westerly joinery in England.

The business was formed in 1983 by Bill Padgeth, a carpenter, and his partner Bill East, who used to work in the area's former tin mining industry. They saw a niche in the market for a quality bespoke wooden stair maker and took the opportunity to set up in business for themselves.

Initially housed in a farm building converted into a workshop, Botrea Stairs has gained a reputation for quality craftsmanship and now employs nine staff, including four highly skilled carpenters/assemblers.

It makes all kinds of wooden stairs including straight, curved, spiral, plain and decorative types, in either softwood or hardwood and in contemporary or traditional designs, for both homes and businesses.

Contracts are carried out for builders and architects nationwide, with many of its stairs installed in London and the South East. Amongst contracts recently carried out have been stairs for modernised holiday cottages on Tresco, in the Scilly Isles, and a set in Oak for a Mormon temple in Surrey.

The business combines the latest start-of-the-art computerised technology with traditional craftsmanship to create the perfect wooden stair. The computerised technology comes in the shape of a recently purchased Masterwood 3-axis Project 415L CNC machining centre supplied with Masterwood's Master Stair specialist software.

The Project 415L has a working stroke of 5200mm, ideal for stair strings, with a 12 position tool changer (with up to 24 available), a tubeless bed for quick set-up times, pneumatic clamping and an 8Kw router (a 14 Kw version is also available). It comes complete with Masterwork, Masterwood's own CAD/CAM software.

Master Stair is an easy-to-use Windows-based CAD/CAM staircase program featuring a cut string capability, designed to speed up the production of all types of wooden stairs.

The machining centre is housed in a 600 sq. m. purpose-built factory unit opened earlier this year, partly in anticipation of the CNC's arrival. A Taylor stair press was bought at the same time, with the investment in the building and the new machinery totalling almost £250,000.

The Project, the company's first machining centre, replaced traditional joinery methods. Its introduction has led to a doubling of output – from 15 to around 30 staircases a week – a figure Bill Padgeth expects to increase still further as they become even more proficient in its operation.

The switch to a machining centre has allowed them to do away with five traditional machines, including a stair trencher, tenoners and mortisers. The Project makes all of the staircases'

components including the strings, treads and risers, does all the mortising and tenoning and produces the newel posts.

"I could see the way things were going in joinery production and started to look into automated production a couple of years ago," said Bill Padgeth. "As we want the business to flourish and remain profitable it's essential to keep pace with changing technology.

"As well as allowing us to make staircases more quickly, which has led to a big reduction in overtime, the Masterwood turns out a far better product. It delivers consistent accuracy, which even the most highly skilled and experienced carpenter can't maintain day after day."

Another benefit is that if a component, a tread for example, is damaged on site during fitting; an identical replacement can quickly be produced, as the production details are stored in the Masterwood's memory.

The partners investigated several machining centre suppliers before deciding to purchase the Project.

After receiving the initial enquiry Masterwood's area sales manager, John Cookson, visited the company to find out exactly what they hoped to achieve. He was then able to suggest the most appropriate model and software.

"The principal reason we bought from Masterwood was that they could supply both the machine and their own software," said Bill Padgeth. "As a first time CNC user it seemed sensible to buy the hardware and software from a single source that could provide us with complete training in both, plus a total after-sales service."

He was also impressed with the robustness of Masterwood machines and the user-friendliness of the Master Stair software.

The Project is operated by Bill Padgeth's son, David, a former tank commander in the Army, and Nicky Snow, who prepares the CAD/CAM programs. Nicky uses the Master Stair software for the design work, working on a laptop. Once the customer has agreed the designs Master Stair provides a full cutting list, which is put on a memory stick and taken down to the Project.

"We now save so much time on setting up and producing the stairs," said David Padgeth. "It used to take half a day to set up manually for a double winder set, a job that takes around 15-20 minutes with Master Stair. Once I have loaded the production information and the machining program has been started, I can go off and do another job while it's running."

Far from replacing labour, the doubling in output achieved with the Project has already led to the creation of two more jobs in the preparation section, with another carpenter being sought for assembly work.

"Moving up to CNC production has been a positive experience with lots of benefits, thanks to Masterwood," said Bill Padgeth. "We have been able to increase production, cut down on overtime working, and have been told that our stairs are now easier to fit because of the accuracy of the machining."

The versatile Project has also been used to make curved wooden street benches for the local Council, which have been placed in Penzance's main shopping street.

Botrea Stairs is so pleased with its investment that the Masterwood's capabilities are highlighted in its latest brochure and on its web site.

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