

Charles Winslow built this 10 by 12-ft. greenhouse using wood arches with sturdy super-strong joints that he spent years perfecting.

Sturdy Arches Made With Dovetail Joints

Handyman and woodworker Charles Winslow produces "super strong" garden and greenhouse arches by using dovetail joints. Winslow says he's perfected the technique after years of experimentation.

Winslow uses wood pieces 16 in. long plus the length of one dovetail to join them. If he wants an 8-ft. dia. arch, he finds the circumferance and divides by 16 to find out how many pieces are needed for a circle. He rounds that off to a full number, which is 18 for a half-circle, so he needs 9 pieces of wood. To find the angle he needs, Winslow divides 360 degrees by 18, which equals 20 degrees. Each piece is then cut at 10 degrees and joined.

A 10-ft. dia. arch needs 23 pieces, and he uses 11 pieces for that size cut at 8 degrees.

"A dovetail joint holds extremely well in all but one direction," Winslow says. "With a hand-held router I can make them fast and very exact. I've also developed a system to make compound dovetails, which are loose to the final fit, but they're even stronger than a single dovetail."

Winslow can make arches from 2 by 4's or 2 by 6's cut to any length. Sometimes he's even cut his own 2 by 6 blocks out of firewood. He uses mostly fir or pine on his arches, but says just about any wood will work. "I use an 8 degree dovetail bit because the small angle causes less chipping on the wood. The purlins are all made from 2 by 4's and have 3-in. long dovetails."



He makes arches from 2 by 4's or 2 by 6's cut to any length.

Over the years Winslow has built and sold close to a dozen arches for \$500 to gardeners who used them for growing vines or to produce a walkway. He's also made larger arches used for a greenhouse frame that's covered with plastic.

"Now that I'm 83 years old I don't have the energy to build them for others, but I will sell the plans to anyone who wants to build their own," Winslow says.

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A pair of 1/2-in. thick galvanized flanges, connected loosely by 4 bolts, allow sweep to make a turn inside chimney.

"Made It Myself" Chimney Sweep

"We've been heating our home with wood since 1974. Cleaning the 20-ft. chimney used to be an easy job, but it's not any more, so I built a chimney sweep that lets me clean the chimney inside the house," says Lee deVries, Scio. Oregon.

DeVries says his homemade chimney sweep "was fairly easy to build and works well" and that anyone is welcome to build their own. Here's how you do it:

Start with a 20-ft. long, 1/2-in. dia. flexible CPVC pipe (not PVC) and use CPVC glue to attach a CPVC male adaptor to one end. Screw a 1/2-in. thick galvanized flange to the adaptor, put four 1/4 by 1 3/4-in. bolts through the holes, and run four 1/4-in. nuts up tight on the other side. Place another 1/2-in. thick galvanized flange over the bolts and screw four 1/4-in. nuts with nylon inserts on just far enough for the nylon to be effective. Screw a 1/2 to 3/8-in. galvanized bushing into the flange and then screw a chimney brush into the bushing.

"The second flange, being loose on the bolts, works somewhat like a U-joint allowing you to make the turn from the stove into the chimney," says deVries.

"CPVC is more flexible than PVC so it works great for this application. At first I tried coupling two 10-ft. lengths of pipe together since they were more readily available, but after using it a few times it broke at the coupler. Then I found a 20-ft. length of CPVC pipe at a plumbing supply store, and it has worked great for a long time."

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Flexible 20-ft. long CPVC pipe has a chimney brush attached to one end, allowing deVries to clean chimney from inside the house.

Nifty Oil Drainage Drum

"My wife and I operate a small cattle farm and a gas station near Paragominas, Brazil. Using a 50-gal. drum, a big plow disc, and vertical lengths of welded-on rebar, we made this drainage drum that works great to empty out plastic oil containers and to drain oil filters. Big funnels can also be placed on top.

We sell the oil or use it as chainsaw lubricant.

"A water tap welded to the bottom of the drum is used to drain it."

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Plastic oil containers are placed over lengths of rebar welded to a big plow disc

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