

# Add a wedge to make a coopered basket



**A**fter making coopered pieces with vertical sides, I began building some with sides that splay. I've used this basket as a centerpiece on the dining table and to bring a dish to a potluck—it definitely makes my contribution look better. Building the basket is similar in most respects to making the coopered trays. The key differences (apart from creating the handle) relate to making the sides splay outward.

## Splayed and coopered

When you make a coopered vessel with vertical sides, the staves are rectangular—their sides are parallel. But in a coopered piece with sides that lean outward, the staves are trapezoidal—wider

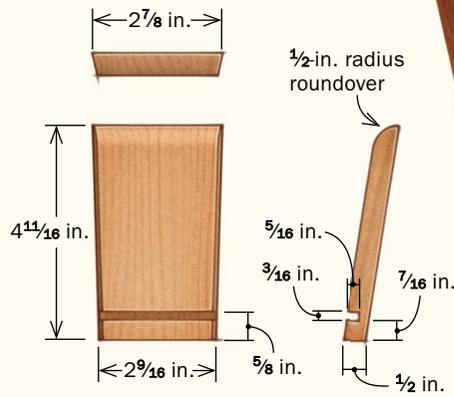
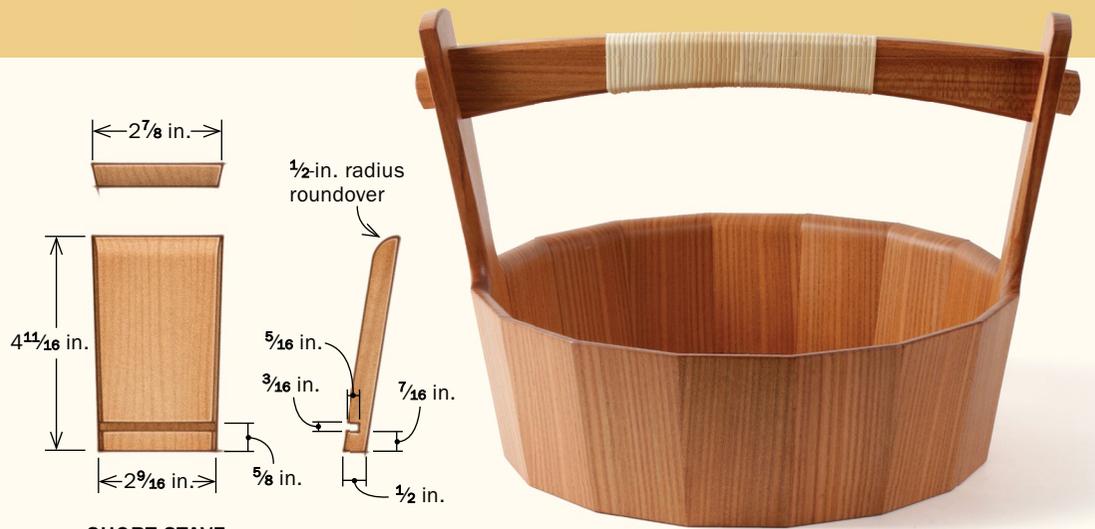
at the top than at the bottom. Typically, such parts are made by angling the tablesaw blade to make the bevel, while also angling the miter gauge to create the trapezoidal taper. Because the staves are tapered, the bevel angle isn't the same as for a vertical-sided piece. Divining the correct angles for the taper and bevel settings can be complicated. I found a website that will make calculations for you ([pdxtex.com/canoe/compound.htm](http://pdxtex.com/canoe/compound.htm)), and I've done coopering that way, but then I discovered a far simpler and virtually math-free method. By making a wedge to the angle of splay I want (9° in the case of this basket) and using it to support the workpiece during machining, I can cut the bevels using the same angle I'd use if the sides were vertical.

## THE WIZARDLY WEDGE

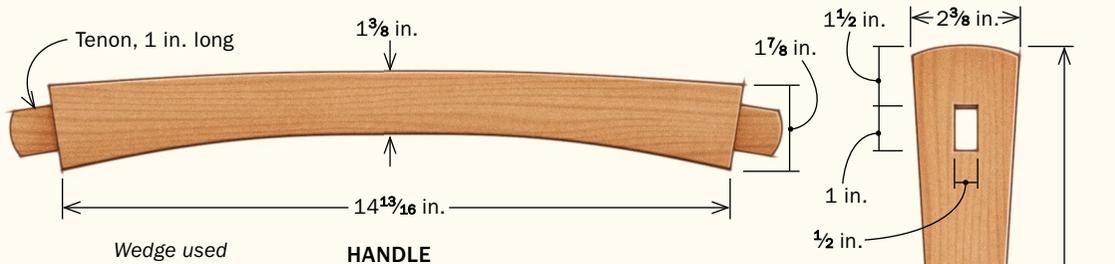
To make a coopered form with sides that splay, you usually have to angle both the tablesaw's miter gauge and its blade. And the blade's bevel angle must be calculated taking the miter angle into account. Lutz's wedge system simplifies the process. If he wants the basket to splay  $9^\circ$  off vertical, he makes a  $9^\circ$  wedge. Then he uses the wedge to support the staves during machining. When using the wedge during beveling, the blade's bevel angle can be set as if for creating a coopered form with vertical sides.



Wedge used in machining determines basket's angle of outward splay.

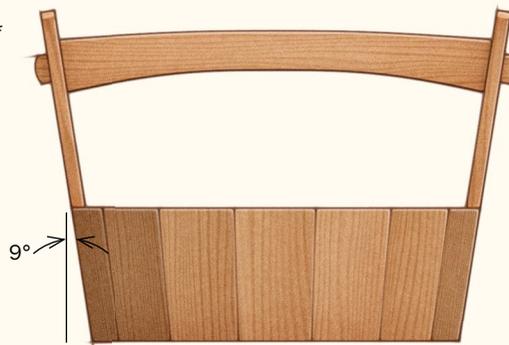


SHORT STAVE



HANDLE

LONG STAVE



## SHAPE THE ENDS



**First the foot.** Using the wedge to create a  $9^\circ$  angle, crosscut the bottom of the basket's staves. Double-sided tape keeps the wedge in place.



**Angle the dado, too.** With the dado blade set to  $90^\circ$ , use the wedge to produce the correct angle for the dado.



**Route the roundover.** With the edges of the staves still square, Lutz uses this jig at the router table to shape the roundover at the top of the staves.

# Coopered basket

## CREATE THE COMPOUND BEVEL

**Compound, yet simple.** With the blade angled and the stave resting on a wedge, Lutz's jig cuts the compound bevel angle on the first side of the stave. With 16 staves in the basket, Lutz tilts the blade to 11.25°.



I built this basket with a cutoff from a thick plank of English elm. Once I had ½-in.-thick stock cut and milled, I rough-crosscut the staves to around 5 in. I left two staves longer—12 in. These are the staves that receive the handle.

Unlike with the trays, where I bevel the staves at the start, with the basket I do all the other machining before beveling, while the staves are still rectangular and easier to work with. At the tablesaw, I crosscut the staves at the bottom, using the 9° wedge attached to a crosscut sled with double-sided tape. Then I cut the dado for the bottom. Here again I use a crosscut sled and elevate the workpiece on the wedge. Next, at the router table with a



**Slice the second side.** After adjusting the screw that acts as a stop and sets the width of cut, spin the stave 180°, place it on the second wedge, and bevel the second side.



**Just a smidge off the sides.** With the jointer fence set to the same angle as the tablesaw blade and the stave clamped to a wedge, Lutz takes a very light pass to prepare the glue joint.



½-in. roundover bit, I create the rounded profile at the lip of the basket. I hold the staves in the same kind of jig I used to rout the coves for the trays. At every other step, including beveling, the two tall staves are machined just like the short staves, but here they are not—they don't get the roundover.

### Beveling

Now the staves are ready to be beveled. I made a jig for the tablesaw with two 9° wedges, one for cutting each side of the stave. Because this basket, like the trays, has 16 staves, I set the blade to the same

11.25° bevel angle. To keep the jig's travel perfectly consistent, I added a raised lip along the left side of its base that tucks under a board clamped to the tablesaw fence.

Once I have all the pieces beveled I take them to the jointer. This is another task where a jig for holding small pieces is essential. Again I tilt the jointer fence to 11.25°. After jointing, I dry-fit the basket to ensure that the joints are tight, then move on to making the handle.

### Put a handle on it

I start the handle with the through-mortises in the long staves, drilling them



## ADD THE HANDLE

**Direct measurement.** After dry-assembling the basket, Lutz lays out the shoulders of the handle, marking from the tall staves. He also marks for the tenons by transferring the mortise locations.



**More wedge work for cheeks and shoulders.** Using a wedge to establish the angle (and a spacer behind it, when needed) on a crosscut sled, make cuts at the tenon's shoulders (above). A similar wedge-and-spacer setup (right) with a tenoning jig works for cutting the cheeks.



### No wedge needed.

Referencing off the angled end cut, Lutz saws the tenons to width. He then finishes the tenons at the bandsaw.



**Curve cuts.** With the joinery finished, Lutz bandsaws the handle to shape. He'll fair those sawcuts with a spokeshave.

# Coopered basket

## BRING THE BASKET TOGETHER



**Shape the handle staves.** With the handle joinery fitted, bandsaw the handle staves to shape, then clean up the sawn surfaces.



**Segmented assembly.** To insert the handle tenons, Lutz must assemble the basket staves in two segments.

out with a Forstner bit and cleaning up the corners with a chisel. Then I dry-assemble the basket again and transfer direct measurements from the long staves to the handle blank. Once I've marked the tenon locations, I use a 9° wedge to cut the cheeks and shoulders. For the shoulders I use a crosscut sled, and for the cheeks I use an over-the-fence tenoning jig. I make the final cuts for the tenon on the bandsaw.

Once the tenons are cut, I bandsaw the handle's curve and clean up with a spokeshave. I also bandsaw, file, and sand the upper part of the long staves to shape. Finally, I wrap the handle in rattan or cane, tacking the ends of the rattan on the bottom side of the handle with a small wire nail. After prefinishing all the parts, I glue up with blue tape and stretch wrap.



**Dry before wet.** At dry assembly, Lutz marks the ends of the through-tenons where they'll be shaped to a curve. He also marks the two tall staves where they meet their shorter neighbors to guide final shaping.



**Wrap it up.** After pre-finishing the parts and wrapping the handle with rattan, Lutz glues up with blue tape followed by many yards of stretch wrap.