



KINDA CREEPIE

Chapter 99

Creepy: One more leg than the typical Irish version.

It turns out that the simplest project in this book – a low stool – was the most difficult to design.

My search for a good stool design began when I read an ethnographic study of Ireland that discussed the “creepie” – usually a low, three-legged stool that allowed the sitter to “creep” toward the fire. It had three legs to give it sound footing on uneven floors. And it was low – very low – to keep the sitter’s head below the cloud of smoke that filled the home’s rafters.

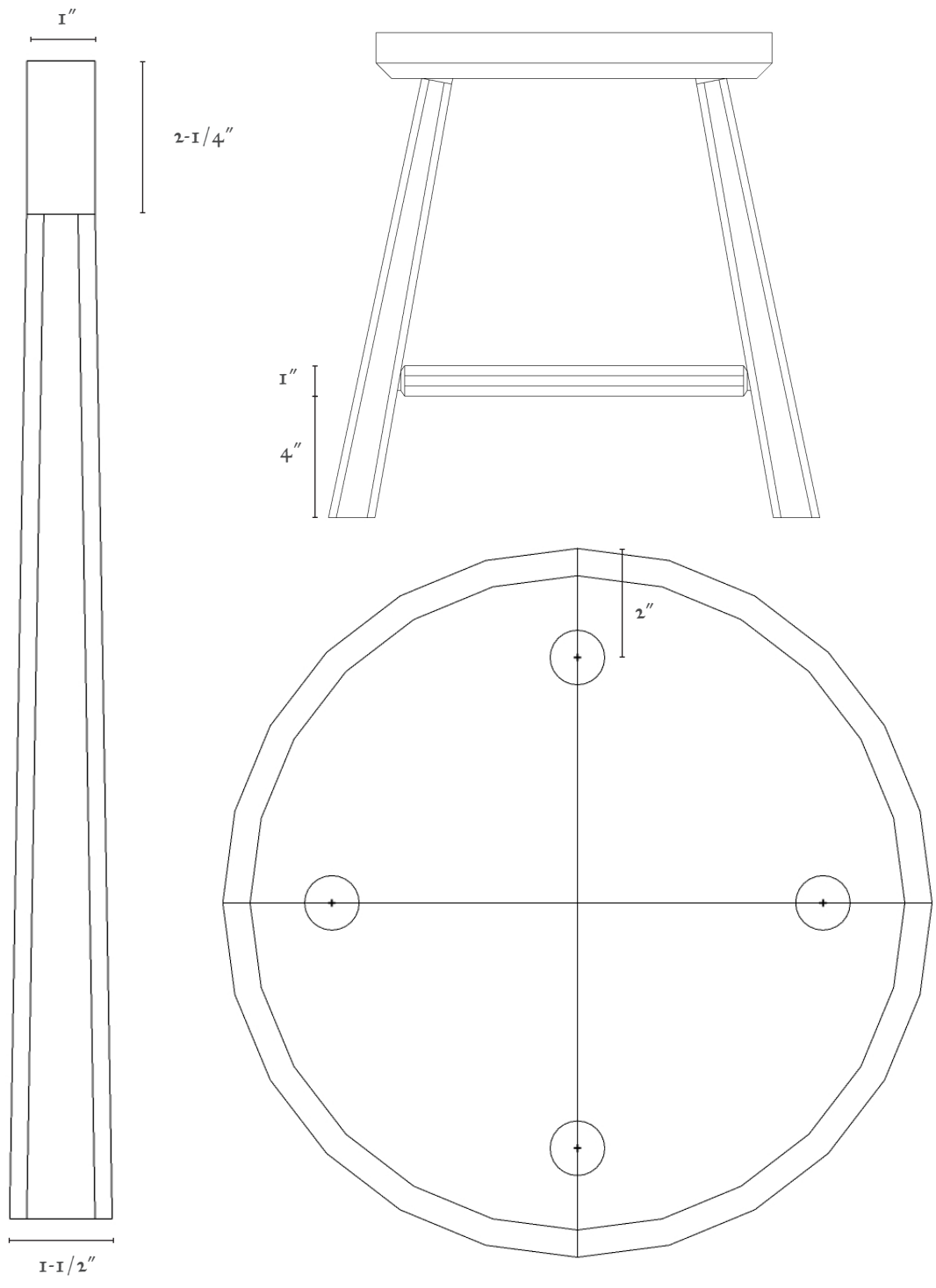
So when I made my first and rough outline of this book, the creepie was one of its most important projects. And during the last six or seven years I’ve made several stabs at designing a creepie that was good enough to publish.

After 20 or so stabs, I came to a startling conclusion. First, ouch. Twenty stabs hurts. Also, designing a creepie is folly. These rude stools aren’t supposed to be “designed.”

They are three legs and a plank – parts that somehow seem like they belong together. The drilling angles are what they are (e.g. irregular). It’s a spontaneous form – not something you can define with CAD or a drafting table.

If you are after a true creepie, put down this book and head out to the woods with a saw and a hatchet. Get a plank that is big enough for your butt. Get three sticks that look like legs. Join them. And *fin*.

Staked Low Stool





An organic creep. Real creepies (such as this) have a casualness about them that cannot (or should not) be replicated with plans and precise measurements.

For the rest of us, here's a simple stool design that represents a lot of false starts, research and prototyping. It's not perfect, but it is a nice, stout stool. The stool is based on 18th-century low stools from American homes. This stool is also an excellent introduction into building the seat and undercarriage of a full-blown chair.

This stool has a pine seat and hardwood legs – ash in this case. The seat is 13" in diameter and the legs hold the seat about 16" off the ground – a good height for a low stool. The H-stretcher is a bit of overkill. But I think you should include it. It will teach you how to add stretchers to any of the chairs in this book – or from other people's books. So let's go.



Around & around. Here I'm marking out the diameter of the seat. Note the two holes in the corners of the blank. These are test mortises that will allow me to test the fit of the tenons on the legs. Waste not, blab blab, blab.

Make the Seat

The seat is a softwood that is about 1-1/2" to 1-5/8" thick. You can glue up the seat from two bits of wood (that's what I did) and put the seam in the dead center of the seat. Keep the leg joints away from this seam; you don't want the legs levering the seat apart. (Yes, a long-grain-to-long-grain joint is stronger than the wood itself in a perfect world. But that is not where we live.)

With the seat blank glued up, use a compass or trammel points to lay out the 13"-diameter seat.

Cut the seat to shape. Then cut a 1/2" x 1/2" bevel on its underside. This bevel lightens the look (and the weight) of the stool. You can do this on the band saw or do it with a block plane or spokeshave.

Now you can mark out the location of the joints. Here's the easy way. On the underside of the seat, draw a line through the centerpoint of the circle. Make this line parallel or perpendicular to the glue seam in the



Around again. After cutting the seat round, tilt the saw's table to 45° to cut the bevel on the underside of the seat. Mark the 1/2" bevel on the seat's edge and follow that with your saw's blade.

seat (if you have a seam).

Place a protractor on your pencil line and mark the seat at 45° on both the left and right sides of 90°. Connect the marks with the centerpoint and you will have a perfect "X" on the underside.

Now take a ruler and mark out the location of the four leg mortises 1-1/2" in from the edge of the seat's bevel. (It's all shown in the photo if you look closely.)

Make the Legs

The legs are 1-1/2" x 1-1/2" x 17" and are made from a dead-straight hardwood such as oak, maple, ash or hickory. Knock off the edges until the legs are octagons. Then taper the legs so they taper to 1" at the top.

For this project, I decided to use cylindrical tenons. While I prefer

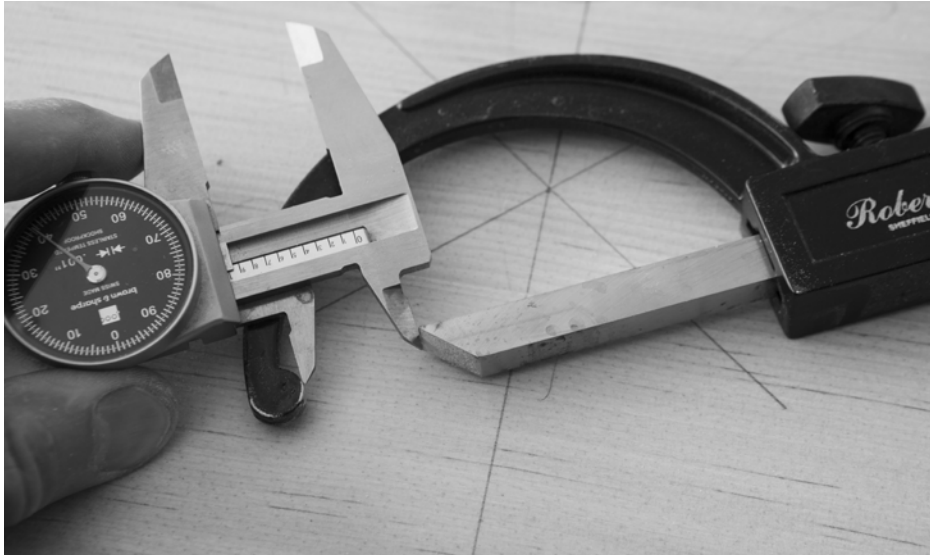


Good layout. There are 100 ways to do this. Place the protractor on your line and mark the seat at 45° on both sides of the protractor. Connect these marks to the center-point. And done. Perfect.

tapered tenons, cylindrical tenons are far more common in the historical record and are easier to make, especially if you own a lathe.

The tenons for this stool are 1" in diameter and 2-1/4" long. Turning them on the lathe is straightforward. If you want your tenons to be dead-on accurate, I recommend you purchase a bedan tool with a sizing attachment. A bedan tool is basically a wide parting tool with its sides relieved (like a traditional mortise chisel) to allow it to maneuver in the cut without binding. The sizing tool is an attachment that clamps to the tool and allows you to set the diameter of the cut.

To use the bedan tool and sizing attachment, first drill a test mortise and gauge the exact diameter of the bit that will drill your mortises. Set a dial caliper to that measurement (lock it) and use the caliper to set the bedan tool and its sizing attachment.



How this works. The bedan tool's sizing attachment is set to .940" – the diameter of the bit for the leg mortises. Slide the sizing tool toward the cutting edge until it matches this measurement. Then lock the position of the sizing attachment and make a test tenon. Really. Test tenon. Don't ignore me.



Perfect tenons. The sizing tool lets you cut tenons within .001". The tooling works just like any standard parting tool.



Test each tenon. After I cut each tenon, I check it in the test mortise (made with scraps from the seat). This is a backstop because I don't trust my bedan sizing tool, though it has yet to let me down.

Bore the Mortises

The leg mortises are bored at an 11° resultant angle. The sightline is 0° and runs directly into the centerpoint of the seat. Set a sliding bevel to 11° and tape it to the sightline. Clamp a backing board below the seat to reduce (but probably not eliminate) any splintering.

With this stool, I'm using a 24 mm bit from WoodOwl that is supposed to leave a clean exit hole without splintering. It does a pretty good job, though no bit is perfect (hence my backing board). These particular bits work best in an electric drill.

Drill the four mortises. Then put the legs into their mortises and have a gander at how accurate you were.

Rotate the legs in their mortises and orient them so their attractive surfaces face out. Then meaningfully mark the legs and the seat so you can get the legs back into this ideal arrangement.

Now it's time to bore the mortises for the side stretchers. These are positioned about 4" to 4-1/2" up from the floor. Here's how to mark



The tape helps. The vibrations from boring can make your sliding bevel move. And even a little bit of movement makes a big difference in the leg angles. So spring for the tape.

them out. First, level the stool like you are preparing to cut the legs to length. Shim the feet until the seat is level all around. Then cut a 4x4 block of wood to 4-1/2" long and place it on the bench. Fetch the half-pencil (it's a pencil planed to half its thickness). Mark the location of the mortises for the side stretchers on the legs.

To bore the mortises, flip the chair upside down so the seat is on the benchtop. Place a couple of sticks between the seat and benchtop to let the tenons poke through the seat. Then take an awl and mark the centerpoint of each mortise on each leg. I do this by eye. Measuring always seems to make it worse.

Chuck a 5/8" Forstner bit into a cordless drill. I drill the 7/8"-deep mortises in the legs entirely freehand, using the seat and the marks on the legs as a guide. Rotate the leg in its mortise so you can get the drill and the bit in position in line with the leg. The drill and bit should be aligned with the mortise on the opposite leg. The photo shows how this works.



Right about here. Putting the stretchers at this height makes the stool look like a chair that has been shrunk just a bit (which is a pretty accurate assessment of the design).



On the tip of disaster. After you do this a few times, you'll gladly bore these mortises without guidance from others. Until you get this confidence, have a spotter tell you if you need to raise or lower the drill to keep the bit in line with both mortise locations.



Tiny test tenons. These thin offcuts determine the final length of the stretcher. Pinch them together and mark across the offcuts. Remove the pieces and reassemble them to determine the final stretcher length.



Stretchers. The side stretchers are installed. And the medial stretcher is laid on top. Now we're ready to drill the mortises for the medial stretcher.



Boring again. These mortises are only 5/8" deep. Put some fresh tape on your bit before boring these joints. This is not where you want to make a fatal error.

If you lack confidence because this is your first rodeo, have a spotter give you some directions. They should be able to tell you if your drill bit is in line with both mortise locations in the legs. Drill the blind mortises, stopping before the bit explodes out the backside.

Make the Stretchers

The stretchers are 1" x 1" material that has been planed octagonal. After preparing the overlong stock for the stretchers, you need to determine how long they should be for your stool. To do this, fetch two skinny scraps. Pinch them together and press the ends into the bottoms of the mortises. Make a pencil mark across the two scraps. Remove them from the mortises. Reassemble them with the marks aligned. Measure the overall length, and that's the finished length of the stretcher.

Do this for both stretchers. Mine were slightly different lengths. If you are cutting the tenons on the lathe, then add 2" to the calculated length to give you some room to work without running your tools into the headstock and tailstock of the machine. (I wrote this sentence to remind myself to do this next time.)

Cut the 5/8"-diameter tenons on the side stretchers using the same techniques outlined for the legs. Yup to the bedan tool and the sizing attachment. After turning the tenons, saw the stretchers to their final length and install them in their mortises.

The medial stretcher is easy. Mark the centerpoint on each side stretcher. Use the same 5/8" Forstner bit to drill a 5/8"-deep mortise in each side stretcher. Once again, I drill these freehand. Keep the bit 90° to the stretcher and parallel to one of the facets of the octagonal stretcher.

You know what to do next. Get the skinny scraps and use them to determine the finished length of the medial stretcher. Cut the stretcher 2" overlong. Turn the tenons on the ends with the bedan tool. Cut the medial stretcher to finished size and fit everything. If the stool doesn't explode, you are ready to glue it up.

Assembly

Before you disassemble the dry-fit stool, mark where the wedges should go in the legs' tenons. I use a Sharpie for this to avoid confusion. Disassemble all the parts and mark them up so you can assemble them in the same orientation with glue in the equation.



The great leveler. This inexpensive saw made its way into our shop via an unknown path. I didn't purchase it. No one sent it to me. It just was there one day. So we stoned off the set of its teeth and use it as a huge (and fast) flush-cutting saw. If you are visited by the saw fairy (as I was) this is a good thing to do.

Kerf the legs to receive wedges. Use a band saw or a handsaw for this. You want the kerf to be of significant thickness. Make some 1"-wide wedges for the legs.

Right before assembly, clean up all the tool marks left on the legs, stretchers and seat with planes and spokeshaves. This is quick work with sharp tools.

Here is the sequence for assembly. Learn this and you'll be ready for a full-on chair in your future.

Glue the medial stretcher to the side stretchers. Twist the parts until the assembly sits flat.

Put glue in the mortises in the legs. Wipe off any excess and put the stretchers' tenons into the legs in the mortises. This will be an ungainly thing, like a baby goat. Rotate the legs until the assembly is stable. Set it on the bench.

Paint the interior of the mortises in the seat with glue. Do not skimp or get in a hurry.

Take a deep breath.

Navigate the legs into their mortises. This might require some grabbing and bending. That's OK as long as the seat doesn't split. The goal is to get the tip of each tenon into its mortise.

Tap the legs down, working around the stool's four legs until the legs are seated. Small taps are better than big ones.

Flip the assembled stool over. Paint the wedges with glue and drive them in with a hammer.

Let the glue dry overnight. The next morning, saw the tenons flush to the seat. There are (at least) 50 ways to level your tenons. When your seat is flat and not saddled, the fastest way is with a Japanese Ryoba saw. We took a hardware-store saw and stoned the sides of its teeth with a diamond plate to remove the set of the teeth. It now barely scratches the seat in use.

After sawing off the tenons, plane the seat to remove any toolmarks.

Level the Feet

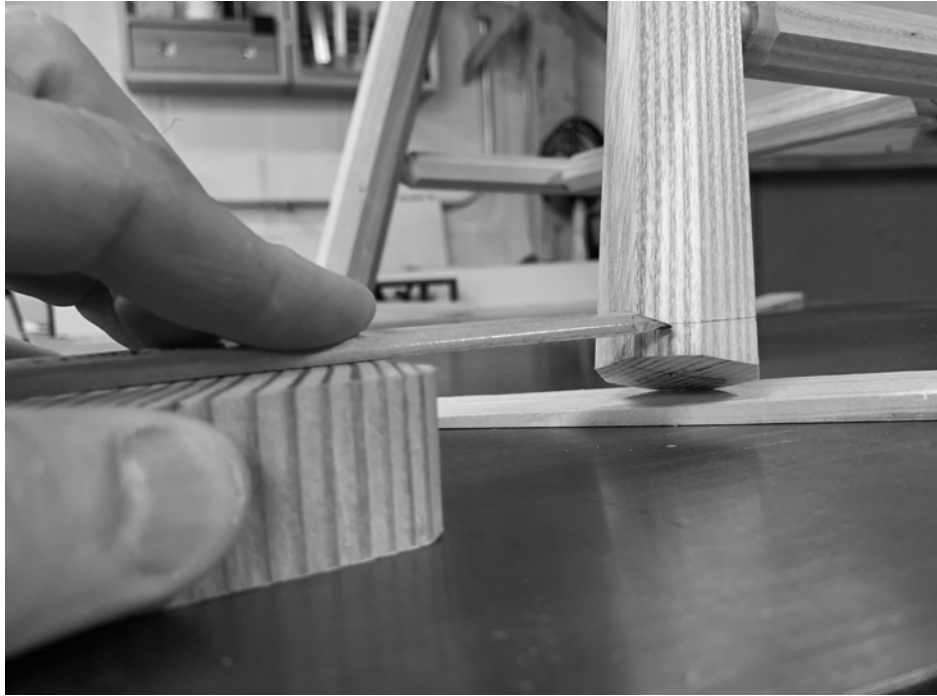
As shown in other sections of this book, there are lots of ways to level the feet. Picking one method depends on how your head works. Here's how I did it for this stool. I first leveled the seat using wedges underneath the four legs.

Then I determined the final seat height (16") and made a block of wood to guide a pencil. The height of the block represented the amount of leg I needed to saw off to achieve the final seat height. In this case, the

STAKED LOW STOOL

| NO. | PART | SIZES (INCHES) | | |
|-----|-------------------|----------------|---------|----|
| | | T | W | L |
| 1 | Seat* | 1-1/2 | 13 dia. | |
| 4 | Legs | 1-3/4 | 1-3/4 | 17 |
| 2 | Side stretchers* | 1 | 1 | 14 |
| 1 | Medial stretcher* | 1 | 1 | 14 |

* Parts are oversized for fitting



The half pencil and a block of wood helps you mark out the correct length of the legs.

block was about 1" high. I placed this block on the benchtop and used a half-pencil.

Then I sawed off the legs to their finished lengths. I then chamfered the feet to prevent the feet from splintering out when the stool is dragged across a floor.

And then you are done with construction. Finishing these stools can be as simple as a coat of linseed oil and wax. Or you can dive into milk paint, soap finishes or the Wild World of Wiping Varnishes. Do your best work – you don't want to be accused of polishing a turd. (And you thought you'd get away without a single stool joke.)