



Stool Crazy After All These Years

A great little footstool that teaches you a new skill or two and takes a load off!

Materials:

- Legs - 3 feet of 2" x 2" maple
- Apron - 4 feet of 1" x 3" maple
- Corner braces - 2 feet of 1" x 2" maple
- Top - 14" x 14" - 3/4" plywood 1
- 2 - 2" wood screws
- 14" x 14" x 2" foam
- 25" x 25" fabric
- Staples or upholstery tacks
- Carpenter's glue
- De-waxed clear shellac
- Aniline powdered dyes

Tools

- Power planer
- Belt sander
- Biscuit joiner and biscuits
- Circular saw or handsaw
- Clamps
- Staple gun
- Soft finish brush
- Sponge brushes

Cut List:

- Legs - Four 9-inch pieces of 2" x 2" maple
- Apron - Four 10-inch pieces of 1" x 3" maple
- Top - One 14"x14" piece of 3/4" plywood
- Braces - Four 1"x2"x6" corner braces with 45-degree angle on each end.

Steps:



Choose the prettiest surfaces, looking for iridescence and curly figures in the wood



Place a mark one half inch below where the apron will be



Continue the line around all four sides

Design Basics

Figure out a design for your ottoman. You can make a cardboard mock-up and test it out for size in front of the chair where it will be used. When you're happy with the size and shape of the mock-up, measure the finished height and subtract the thickness of the foam and plywood. Then cut the legs to that length. Look at your lumber carefully to determine which are the prettiest sides, and position them with best sides facing outward.

Measure the overall outside dimensions of your mock-up and subtract the size of the legs. Cut the 1" x 3" apron material to that length. Put the pieces of 1" x 3" in place between the legs and check the overall look again, making any necessary adjustments.

Tip: Number the legs and the apron pieces so that they can be accurately returned to their location.



Draw the angle of the taper



The taper lines, ready to be planed



Plane a taper onto each side

Taper 'Em

To taper the inside surfaces of the legs, which is traditional and quite pleasing to the eye, it takes a little work but it's worth it. The taper will be on the two inside surfaces, but the two outside surfaces will remain flat.

With all the pieces in place make a mark on the leg about 1/2" away from the apron. Use a square to continue the line around the leg on all four sides. Next, on the bottom of the leg, measure in 1" from each of the outside surfaces. Make a little 1" box on the outside corner. Now, connect the corner of the box to the line near the apron. (See picture.) This will indicate the finished dimensions of the leg after tapering.





Begin planing against the grain on the thick end of the taper



Finish going with the grain

Clamp the leg securely and use a power planer to remove the excess wood to within 1/16" of the taper line. Continue planing the inside edges of all four legs.

Tip: It is easier to start planing the larger part of the taper first from the bottom up. This will, however, cause the wood to chip because of the direction of the grain. After you have gotten your planed line parallel to the pencil line and about 1/8th inch away, reverse the direction and plane from the top of the leg down. This will help to take out any chips that you might have made going against the grain.



Sand the pieces smooth



Ease the sharp edges last



Complete the sanding by hand as necessary

Sand Ahoy!

Use a belt sander mounted upside down on your bench to remove and smooth out all the surfaces on the legs and the apron. Start with a 40-grit belt for the surfaces that have pits left from planing and work up to 220-grit. Be sure to round over the sharp edges on the last pass with the 220 belt. Otherwise you'll split your shin if you ever bump into the ottoman, and where's the fun in that?





Sanding belt eraser

Another Tip:

In the belt sander section of the hardware store, look for a belt cleaner, which looks like a large beige rubber eraser. It is used to clean sanding belts which extends their working life. Just hold the eraser firmly against the belt while it's running and the sawdust stuck on the surface will instantly disappear.



Aniline stain



Clear shellac

To Dye For

Once all the surfaces are sanded to your liking, apply a finish of [powdered aniline dye](#) mixed with clear, [de-waxed shellac](#). Both aniline dyes and shellac are available at Lee Valley Tools. The shellac should be mixed to about a 1 lb cut (i.e. One pound of dried shellac flakes to one gallon of shellac thinner or de-natured alcohol - BUT NEVER MAKE THIS MUCH AT A TIME! It's only good for a few months once it's mixed, so make small batches.)



Brush on in one long stroke



Overlap the brush strokes a tiny bit



Remove any excess quickly with a dry sponge brush

You'll have to experiment with the aniline powder mixed into the shellac to get just the right depth of colour. I used about one quarter of an envelope of Peacock Blue aniline powder in approximately a half-pint of liquid shellac. The great thing about making your own aniline finish as opposed to using paint or even stain is that the intense dyes bring out the grain and iridescent quality of the maple.





Where the biscuit fits in the joint



Cutting a slot in a leg



Slot made for the biscuit in the end of an apron piece

Frisky Biscuits

Once the shellac is dry (only takes about 20 minutes), make a pencil mark lightly on the centre line of each apron piece at each end where it butts against a leg. Then hold the first apron piece in place against the leg and transfer that center-line to the leg. Continue to mark all the legs, lining up the apron mark with a corresponding mark on the leg.

Determine the size of biscuit to be used (see your machine's instructions) and set the biscuit joiner to that size. Adjust the blade of the joiner so that it will cut a slot right in the center of the apron board where it joins the leg. Be sure your joiner is unplugged while working close to the blade making adjustment! Once everything is lined up, cut slots in all the ends of the apron pieces.



Biscuit in place in the side of the leg

Next, set the blade so that it will cut 1/4" lower (this will inset the apron and make it look nicer) and cut slots in the sides of each leg. Use the centre line that you transferred to the leg from the apron to line up the biscuit joiner. Glue and clamp all the pieces together checking that the ottoman is square.





Corner brace

Brace to the Finish

While the pieces are still clamped, cut four identical corner braces to fit in the corners around the legs. When the pieces are screwed in place they will brace the legs as well as providing a way to attach the top to the frame. Drill perpendicular holes in each pointed end of the brace and counter sink them. The hole drilled in the brace should be **LARGE** enough that the screw can slip through it **BUT** the hole in the apron (where the screw attaches) will have to be **SMALL** enough to catch the threads. Also, be careful not to burst through the front of the apron when drilling with the smaller bit. Attach the corner brace using 2" screws. Note: leave 1/4" to 1/2" between the brace and the top of the ottoman so that there is room for the fabric.



Plywood and foam



Staple the material on one side



Then staple the other



Make a nice fold in the corner and staple it in place

Up on Upholstery

Once in place, drill holes in the centre of each brace and counter sink them. Cut a piece of 3/4" plywood the exact size of the outside dimension of the ottoman. Cut a piece of foam to fit, choose a fabric, stretch it around the foam and plywood and then staple it to the bottom of the plywood. Attach the plywood top by driving screws through the corner braces into the plywood.

Tip: Use a bread knife to cut the foam and cut it about 1/4" larger than the plywood. It helps to add a little on each side so that it can compress a bit.





Finished ottoman

Now after all this standing around working, you deserve to put your feet up. If only you had a nice ottoman.

Wait a minute. **YOU DO HAVE A NICE OTTOMAN!**



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