



Article by Dan Brandner

Turning Shaker Pegs



This Month, Dan Brandner presents Turning Shaker pegs. This is something our beginning turners can do to practice their roughing gouge, beads, coves and parting tool, and end up with a place to hang up their face shield and turning smock.

The Shakers were a Christian sect founded in 1747 in England, and then organized in the US in the late 1770s. They were initially known as “Shaking Quakers” because of their ecstatic behavior during worship services.

The Shakers' dedication to hard work and perfection resulted in a unique range of architecture, furniture and handicraft styles. They designed their furniture with care, believing that making something well was in itself an act of prayer. Before the late 18th century, they rarely fashioned items with elaborate details or extra decoration, but only made things for their intended uses. This “Form Follows Function” perspective resulted in several inventions that have spare lines, yet are quite functional and have survived to this day. Shaker style kitchen cabinet doors or furniture pieces are still popular today. This perspective is the forerunner of today's minimalist movement.

One invention, the Shaker peg and peg rail, is a simple yet functional design element that has been a staple in homes for centuries. Their origin lies in the Shaker community where peg rails were common in entryways, larger dining rooms and bedrooms. Today you can find these peg rails in garages, entryways, mudrooms and kitchens.



Besides these peg rails and their furniture styles you may recognize these inventions. Shakers invented the oval pantry box and the flat broom which was normally round up until then. They also invented the hand held whisk broom.

This project is a good one for new turners to practice with their tools and turn a small half cove and half bead, resulting in something useful. You can even try out the skew.

Steps

1. Find center and mount the spindle blank of 1" or slightly larger hardwood. I'm using hard maple I split from firewood. Fig 1



Fig. 1 Mounted hardwood blank.

2. Use Spindle Roughing Gouge to turn to a cylinder of $7/8$ " diameter, the width of the head. Measure with a caliper set to $7/8$ " when you get close.



Fig 2. Marking the spindle with key points, using a card or a measuring jig with nails.

3. Mark shaker peg points on spindle using a ruler, a card template or nail jig. Fig 2.
If desired, highlight marks with V cuts using a skew for visibility. Fig 3. See Note 3 for details.



Fig 3. Marking penciled lines with skew V cuts.

4. Use Parting tool to set depth of shoulder of the tenon to about $19/32$ nds, which I approximated with a 15mm wrench. Fig 4. ($15\text{mm} \sim 18.89/32$ nds of an inch)



Fig 4. Set depth of the shoulder of the peg's tenon to $19/32$ " (15mm)

5. Use Parting tool to set depth of the center of the peg's tenon to $1/2$ ", but allow for it being tapered. Fig 5. Here I'm using a $1/2$ " wrench.



Fig 5. Reduce the peg tenon to $1/2$ " with a taper ($31/64$ " to $33/64$ " at the shoulder using a $1/2$ " wrench at the tenon's midpoint.

6. Use spindle gouge or skew to peel down bulk of tenon.
One I made longer to fit in a 1/2" collet chuck. Fig 6.
One I transitioned to an MT2 Taper using a jig suggested by Alan Lacer. Fig 7.
For the MT2 jig, See Note 1 at end of article.

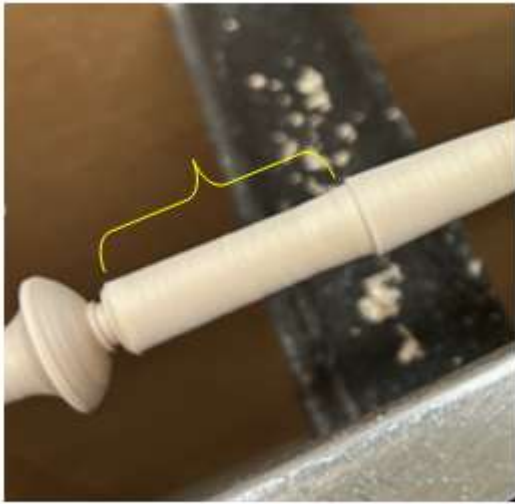


Fig 6. Longer 1/2" tenon for in collet chuck.

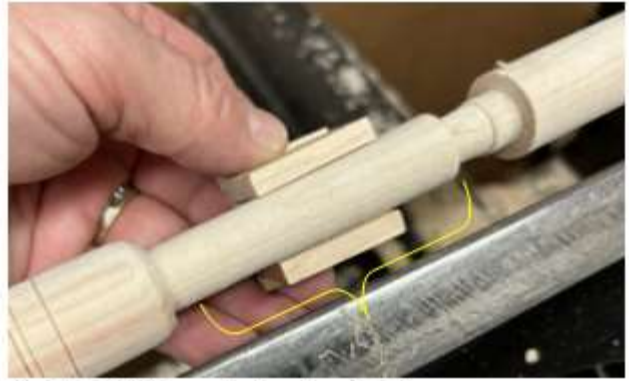


Fig. 7. MT2 Taper to jam in spindle.

7. Use skew or spindle roughing gouge to roughly shape the taper of the peg. Fig 8a & 8b.



Fig 8a. Remove bulk of peg taper with roughing gouge.



Fig 8b. Removing bulk of peg taper with skew peeling cuts.

8. Remove some of the bulk around the two heads, but leave enough end on the MT2 tapered one to allow use of the tailstock live center initially after remounting. Fig 9.



Fig 9

9. Use Parting tool to set depth of center of neck (thinnest part) to $7/16''$. Fig 10.
I saved this for last because it introduces some thin weak spots in the spindle. See Note 2.



Fig. 10 Reduce the peg neck to $7/16''$ (shooting for $3/8''$ final).
This image was done before reducing the bulk of the peg's taper.

10. Once the “re-mounting” tenons are completed, part off the two blanks. You may need to use a small saw to part the two pieces. Fig 11a,b.



Fig 11a. Partial part off before sawing.



Fig 11b. Separating with a saw.

11. **Finishing with Collet chuck:** Remount the one peg with the 1/2” tenon into a 1/2” collet chuck. Now you are fully supported on one end. Fig 12 a,b
You can also use the tailstock for additional support until finishing the head.



Fig 12a. Mounting the tenon into the collet chuck.

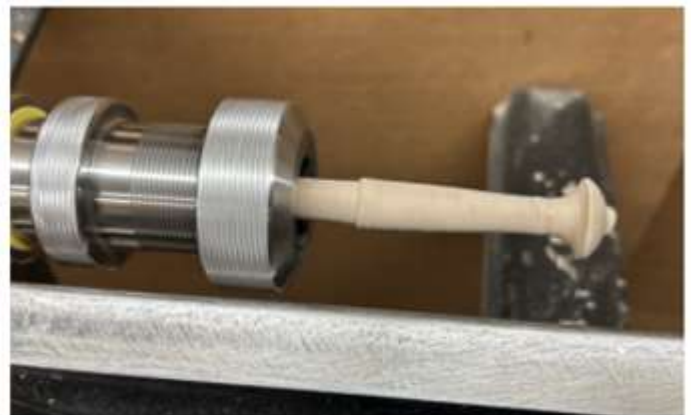


Fig 12b. Mounted in the 1/2” collet chuck.

12. Using a skew, finish the $\frac{1}{2}$ " tenon cleanly to be $\frac{9}{16}$ " long with a slight taper from $\frac{15}{32}$ " to $\frac{17}{32}$ " at the shoulder. Move the tool rest to be parallel to your peg taper and using a skew or spindle gouger, smoothly finish it. You can use a paring cut with the skew or tip of the spindle gouge to clean up the shoulder. Fig 13.



Fig 13. Putting a nice finish on the Peg's taper with a skew. You can also use a spindle gouge.

13. Using a spindle gouge, turn a smooth half cove below the head, blending into the shaft's neck. Fig 14.



Fig 14. Turn $\frac{1}{2}$ cove with a spindle gouge, smoothly into the peg's taper. If you're brave try doing it with the skew.

14. Using a spindle gouge, start turning a half bead on the top of the head. This can also be done with the skew. Clean up the rim of the head if needed. Fig 15 a, b



Fig 15a. Turning the bead on the head with a spindle gouge after backing off the tailstock live center.



Fig 15b. Turning the bead on head with a skew.

15. Sand if desired, then part off your finished peg. Fig 16



Fig 16. Parting off from the collet chuck.

16. **Finishing with spindle as a jam chuck:** Firmly tap the MT2 tapered blank into the head stock spindle. Be careful as the neck of the peg is already pretty thin. Pull up the Tail stock initially for additional support. Fig 17a, b.



Fig 17a Firmly pound the peg blank into the headstock. Fig 17b Bring up the tailstock for additional support initially.

17. Now repeat as in 12 and 13 above, also removing any of bulk of the head before backing off the tail stock.

18. Your piece should be tight in the spindle taper. Back off the tail stock, and repeat 14 and 15 as above.

19. After parting off, use the lathe's ram-rod to remove the jammed piece in the head stock.

20. Mount the pegs by gluing and tapping them into 1/2" drilled holes in a board and you have a useful peg rail to hang up your turning smock and face mask.



Peg rail with mounted pegs.

Note 1: Alan Lacer's MT2 Taper jig. He uses it when he's turning an egg or a top. He made it by gluing up some small pieces of wood on an MT2 center as shown. It is a useful method on small pieces for turners who don't have a collet chuck.



Note 2: The problem with the longer spindle is that if you get too thin, you can bow it out when applying tools to it as it gets thinner. Also, when parting off, you have 3 places to part it off. Since I finish the piece in the collet chuck or using the spindle taper as a jam chuck where I have clean access to the end and can part off cleanly, it is probably best to prepare blanks singly and finish them one after the other, by one of the two methods.

Note 3: Here are the dimensions of a standard 3" Shaker peg.

