WOODTURNING FUNDAMENTALS

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Cocktail and Small Food Smoker

by Larry Sefton

My son texted me about a rush Christmas gift for an eclectic friend. He wanted to know if I could make a cocktail smoker because all the commercial suppliers were sold out.

I had never heard of such a contraption, but my son sent a link (https://foghatsmoker.com/) and helped me visualize the design and understand the smoker's purpose. In retrospect, I realize I was set up as my son knew I could not pass up this opportunity. He would end up with unique gifts for friends at no cost to himself (including some wood chips from my shop as smoking wood), and I would have fun with the designing and making.

I was already in my shop when I read his text so, in a hurry to prove my skill, I went straight to the wood storage shelves. Version 1.0 was a real flop, but it sent me to YouTube, where I found a video of someone making a cocktail using a cocktail smoker. Understanding how the device was to function made the task of backwards engineering its design much easier; in hindsight, this is where I should have started.

Version 2.0 was a success but there was still room for improvement. A few days later, Amazon delivered a sink strainer, which would solve the problem of the wood chips being pushed out by the torch's flame, and back to the shop I went. Version 3.0 was a complete success. Like any proud maker-father, I sent my son a photo and a video clip of the finished smoker. His reply came back "Awesome! Can you make two more as Christmas presents?"

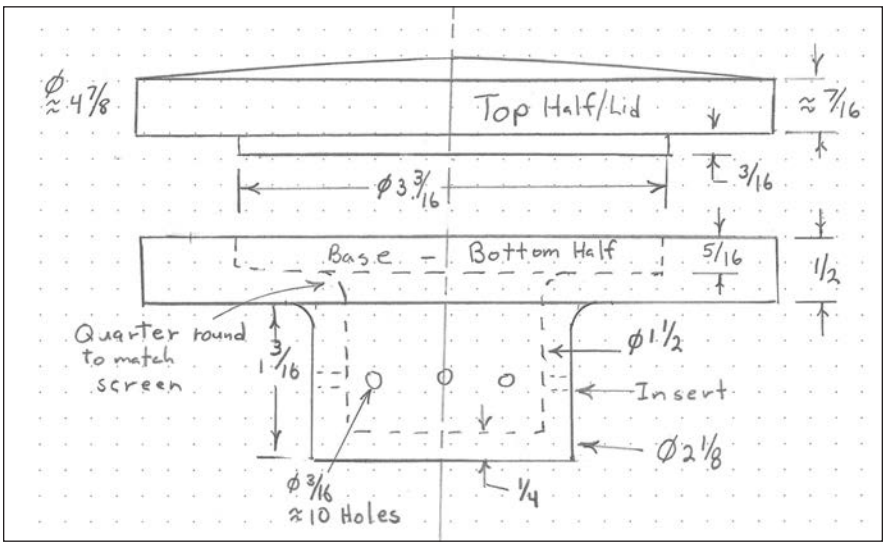
Good old dad—of course I could.

This smoker project is easy to make because it is forgiving in size, tolerances, types of wood, and final surface finish. Best of all, when the project is completed, you can impress others and enjoy beverages and food with new flavors. Be ready—your friends will want one.

Materials

You'll need the following three items for this project:

- **Two seasoned hardwood disks** 1-3/4" x 5" (45mm x 13cm) in diameter. Avoid soft or spalted wood.
- **One wire mesh stainless-steel sink strainer** to hold the wood chips in place while they're ignited with a kitchen torch. I used a Besseek brand "Heavy-Duty Stainless-Steel Slop Basket Filter Trap 2.75" top and 1" mesh metal sink strainer." I do not recommend the smaller size or the plated wire strainer that are lower cost. I will refer to this strainer as a "stainless-steel screen" in this article.
- **Double-sided tape.** I use Roll Grip Tape DFTG2 (www.golfworks.com/). Other double–sided tapes work but this is my favorite because it is not thick and gummy.



1. *A project of this type is not about designing on the fly, but thoughtfully adhering to a set of key measurements. A sketch will capture your design concepts and any critical tolerances.*

Sketch a design

I recommend you make your own sketch to best understand the project design (**Photo 1**). Measure the stainless-steel screen and develop your design around it. It is also a good idea to measure a standard beverage glass. The smoker comprises two turned pieces, a lid and base. The stainless-steel screen fits into the base and sits over the wood chips. The lid prevents the smoke from escaping. Plan for a minimum of 1/16" (2mm) clearance between the stainless-steel screen and the bottom of the lid.

Cut blanks

Using a compass, scribe a 5"-diameter circle on each disk and mark the centers. Use a bandsaw to cut the blanks slightly larger than the circles (**Photo 2**). The finished components will be about 4-3/4" to 4-7/8" (12cm) in diameter.

I use 1-3/4"-thick lumber for both the lid and the base. Both are cut from the same board for a

2. *Using a bandsaw, cut the two blanks slightly larger than 5" in diameter.*

Bandsaw safety tip

When I cut small blanks on a bandsaw, I use a quick one–hand bar clamp to hold the wood and keep my hands away from the blade (shown in Photo 2). It may look cumbersome, but after a short learning curve I found I am faster and safer than just holding the blank by hand.

Tailstock support

The tailstock support in Photo 3 uses a live center that allows a 3/8" diameter shaft to be inserted into it. The steel shaft is inserted into the wood support, allowing the non-marking support to be removed when not in use and a standard point to be inserted into the live center.

good color and grain match, although I am not overly concerned about matching grain because someone will literally be building a fire inside this box.

Make the lid

Using a faceplate with a wood block attached, mount the lid blank using double-sided tape, using the flat and smooth surfaces of the turning blank and the faceplate to bond with the tape. Position the tailstock for additional support and to apply pressure to ensure the tape adheres (**Photo 3**). The wood face plate will make it is easy to remove any old tape by cutting away the residue.

Using a 3/8" (10mm) deep fluted gouge, true the outside of the form, leaving the diameter a little larger than the finished size (**Photo 4**). There is no need for perfection on this surface because it will be sized and finished in a later step.

Turn a 3-3/16" (8cm) diameter, 3/16"-long spigot—this is the underside or bottom of the smoker top (**Photo 5**).

Remove the tailstock support and clean up the underside of the lid with a 3/8" spindle or detail gouge (**Photo 6**). Hand- or power-sand and complete the underside of the lid, if needed.

3. *Bring the tailstock up for support. The author uses a shopmade soft tip for non-marking contact.*

4. *True the side of the blank with a deep-fluted gouge.*

5. *Turn a short spigot on the bottom of the lid. This will confirm the lid is seated in place when the smoker is in use.*

Add any desired details to the underside, but don't get carried away as this is a utilitarian item that will be exposed to fire.

Remove the lid from the faceplate, removing all tape from the lid and the wood faceplate.

6. *Retract the tailstock and turn away the remaining material that had been pinned under the live center.*

7. *With the base mounted, make a paring cut with a parting tool to form a spigot on the tailstock side to fit in your chuck jaws.*

8. *Mount the base's spigot in a four-jaw chuck and true the side of the blank.*

Complete the bottom half

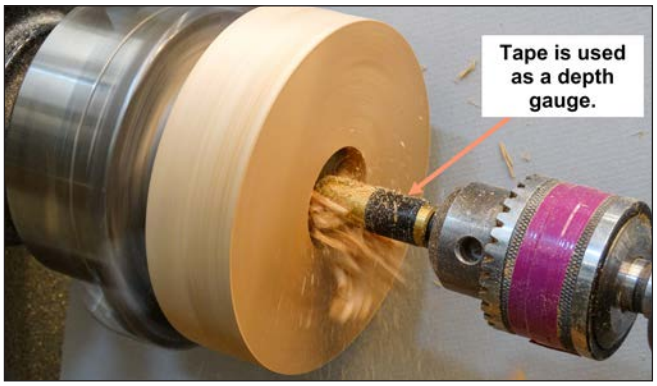
Mount the bottom-half blank to the wood faceplate with double-sided tape, using the flat smooth side of the blank. Don't try to re-use the tape from the earlier step; it's intended to be a single-use product. Use the tailstock for support.

Use a 1/4" (6mm) parting tool to create a 2-1/4" - 3" (6cm - 7cm) diameter spigot (**Photo 7**). Confirm that the spigot will fit in your contracting chuck jaws while also retaining enough material to accommodate the final dimensions of your spigot (2-1/8" (5cm), in my design).

Remove the turning from the faceplate, remove the tape, and remount the base in a four-jaw chuck by clamping the spigot you just created. With your gouge, true the blank to a generous 5" (final sizing will happen later) (**Photo 8**).

Using a 1-1/2" Forstner bit held in a Morse taper drill chuck, drill a flat-bottom hole about 1/8" (3mm) deeper than the height of the stainless-steel screen, plus the clearance needed for the lid's spigot (**Photo 9**).

Using a 1/2" (13mm) square profile scraper, cut a 5/16" (10mm) recess that matches the lid's spigot diameter (**Photo 10**). This recess's depth equals the lid's spigot height plus the clearance needed for the stainless-steel screen. If you use a sharp scraper with good tool control,



9. *Use a Forstner-style bit to drill a hole in the base equal to the depth of your screen, plus 1/8".*

10. *With a square scraper, cut a recess to accept the spigot on the bottom of the lid.*

11. *Use light shearing cuts to form a transition between the flat recess and the depth hole. This provides clearance for the curve of the stainless-steel screen.*

12. *Check the fit of the screen and the lid, removing any material that is interfering. You may also want to make the rim around the base's recess slightly concave.*

there will be no need for sanding. Carefully work up to the lid fit. The final fit should be slightly loose.

Turn a convex radius to transition between the flat recess and the 1-1/2" drilled hole (**Photo 11**). The curve should match the stainless-steel screen's curve. Sand as needed.

Clean up the mating surface of the base that fits against the lid's rim and sand as needed. To get a good-looking outer mating surface, you may need to make this surface slightly tapered or concave to accommodate imperfections on the lid's rim.

Test fit the lid with the stainless-steel screen in place and adjust as needed (**Photo 12**).

Complete the lid

Using small pieces of double-sided tape, secure the lid into the base using the tailstock with the non-marring support. Keep the tape well within the finished diameter because the tape does not play well with cutting tools and sandpaper.

Approach the assembled lid and base as a single blank and, using a deep-fluted gouge, turn both the bottom and top to the final outside diameter (**Photo 13**). Sharpen your gouge and take a finishing cut. Sand to remove sharp edges and tool marks. Let your hands inform your sanding process—your sense of touch will tell you more about the form than your eyesight.

13. *Tape the lid to the base and, using tailstock support, true the combined outer rims.*

Complete the top of the lid to whatever design you like (flat, convex, etc.), leaving the tailstock in place for support as long as you can. In this case, the lid is flat and I am using a three-point tool to create three embellishment grooves (**Photo 14**). I also burned the grooves using a Formica chip. Finish sanding, remove the lid and any tape, and set the lid aside.

14. *Decorate the top of the lid. The author uses a three-point tool to cut grooves.*

15. *With the base reversed in the chuck, transfer the thickness of the lid to the top of the base.*

16. *The author added more embellishments with the three-point tool.*

Turn the insert

The insert is the section of the base that sits inside your glass or jar. Remove the base from the chuck, turn the blank around and expand the chuck jaws into the recess of what is now the inside of the bottom half. Draw a reference line (on the chuck end) to indicate the location and thickness of the 1/2" rim (**Photo 15**).

Turn away the excess wood to create a 2-1/8" diameter x 1-3/16" (3cm) long spigot or insert below the 1/2" rim. I used my 1/4" parting tool to form the spigot. Then with a deep-fluted gouge and a detail gouge, I turned the insert's exterior bottom surface, maintaining a 1/4" wall thickness (**Photo 16**). Take care not to break into the drilled chamber.

You can embellish the insert at this stage or go straight to final sanding. Again I added lines with the three-point tool and burned the lines in with a piece of thinned Formica.

Formica chip

A Formica chip is an alternative to using a wire to burn or burnish accent lines. You can usually get a sample Formica chip from a building supply store for nothing more than the cost of asking.

I start by cutting a groove in my blank with a point tool. With the lathe running, I hold the edge of the Formica in the groove until the heat of friction burns in a line. For wide lines I use original thickness Formica. For fine lines I reduce the thickness along one edge using an abrasive grinder or drum sander.

Smoke holes

You will need to drill 10 to 12 holes evenly spaced around the spigot, penetrating through to the inside hollow area that will hold ignited wood chips. You could eyeball the locations and do this by hand and still have a functional item, but I am going for a more systematic look. I use a 3/16" bit and my drill lying on a platform clamped in my banjo that replaces my toolrest (**Photo 17**). I use the indexing feature on my lathe to distribute the holes evenly around the spigot insert.

17. *An adjustable-height shopmade platform aligns the drill bit with the axis of rotation.*

18. *A kitchen torch and a few wood chips will have you in the business of smoking drinks and small quantities of food.*

Finishing

Use a utilitarian hardening oil finish such as walnut oil. A wax or a surface film finish would be affected by heat or contact with alcohol and should be avoided. Do not over-do the finishing oil as heat will make any excess uncured oil bubble back out of the wood the first couple of times your smoker is used. This is to be expected, so just warn the recipient and let them know the remedy is to wipe away any excess oil. The smoker could also be left unfinished.

In use

Place your smoker base on a glass or a jar. Place a few fine wood chips of your choice in the bottom of the insert section. Place the stainless-steel screen on top of the chips. Using a kitchen torch, heat the chips to the point of ignition and then place the lid on top (**Photo 18**). You will see the smoke escaping through the drilled holes in the insert into the glass.

As for smoking cheese and other food, put small pieces in a jar (I use a quart canning jar) and use the smoker as above. I have also smoked popcorn in a bowl using an aluminum foil cover with a hole for the smoker.

There are hundreds of recipes and videos online for making a variety of smoked cocktails—just search for "smoked cocktail recipe."

Safety tips

This smoker will create pungent smoke, so use it outdoors or under an outside–vented cooking hood.

Before too many cocktails are made and consumed, choose a designated operator of the smoker. Use of this project poses a potential fire hazard. Take care to avoid accidental ignition of the smoker unit itself and of flammable alcohols used in cocktail recipes. Be ready to extinguish unexpected fires.

As a woodturner, you now have another reason to save fruitwood, hickory, or oak shavings. Small quantities of flavored wood chips can also be purchased online from a variety of sources. You may also have a local retailer that sells BBQ smokers along with flavored wood chips. When you go, be sure to take your smoker with you because the store owner has likely never seen a smoker of this design.

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The smoker with and without the essential screen. With the screen removed, note the convex transition into the bottom recess, with a profile that accommodates the curvature of the screen.

The smoker is useful for small quantities of food items, in this case, cheese cubes on skewers so the smoke can reach all sides.