

Turning a Crush-Grind Peppermill

GLUE METHOD

Design or sketch a profile first.

Determine where the cap will be and how large or small it will be.

There are different crush-grind mechanisms on the market. So be sure to measure the size holes you will need, leaving at least a $\frac{1}{2}$ " depth at the bottom.

The mill used here is from Craft Supplies. The Forstner bit sizes used may not be applicable to your project.

Rough to round and mark tenons. This will depend on your design.



Mark off the body, the cap, and three tenons.
Turn the tenons (in green)



Label **bottom**, **top**, and **cap**.
This will help to align the grain and avoid confusion later.



Mount the **bottom** portion on a chuck so that the **top** and **cap** are at the tailstock end of the lathe.



Part off the **cap**.



At the **top**, drill a **1 3/8"** hole **1/4"** deep.



Next, drill a **1 1/16"** hole half way though the **body**; or, all the way through. Your preference.



Turn the surface of the slightly concave.

Sand and finish the end (i.e. friction polish).

Optional: Sand the inside of the **1 1/16"** hole



Reverse the mill on the chuck so that the **bottom** is at the tailstock end of the lathe.



Part off the **bottom** tenon. **OR**...with your design, you might want to leave it.



Drill a **1 3/4"** hole **3/4"** deep.



Check it with a ruler.



Drill a **1 1/2"** hole **2 1/16"** deep from the very bottom of the mill (not the recess.)



Check it with a ruler.



If you have not drilled the top hole (1 1/16") all the way through the mill, do so now from the bottom so the holes meet.

Turn the surface slightly concave.

Sand and finish the end (i.e. friction polish).



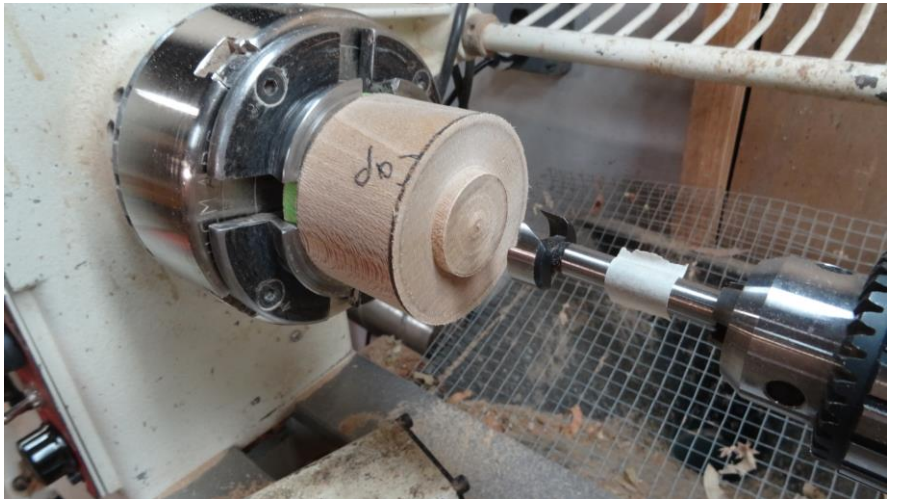
Remove the **body** from the lathe and mount the **cap**.



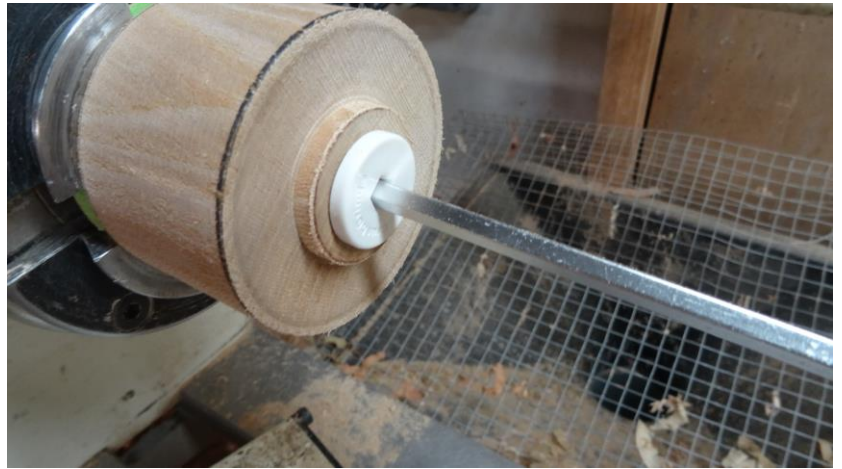
Form a tenon $\frac{1}{4}$ " deep at the bottom of the cap that will fit inside the $1 \frac{3}{8}$ hole drilled previously at the top of the **body** of the mill. The fit does not have to be snug, but not too loose.



Drill a hole **15/16"** wide and **1"** or more deep.

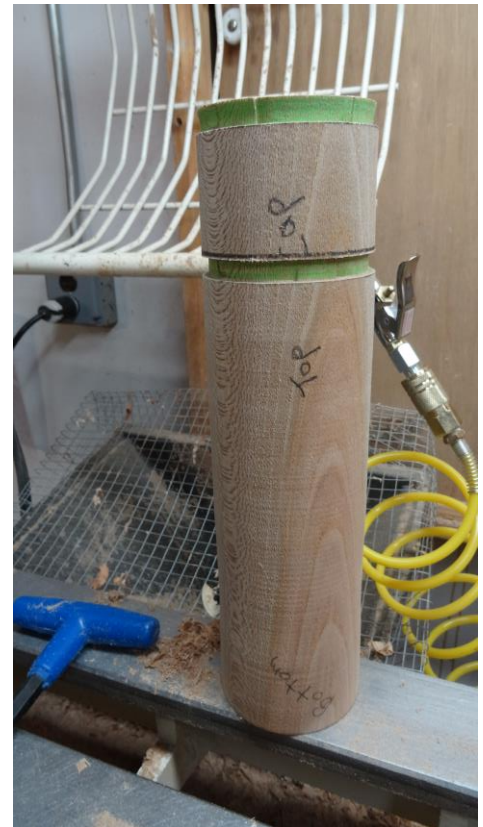


Test fit the top portion of the mill. Depending on your design, you might want to drill deeper.



The mill mechanism should fit.

Remove the **cap** from the chuck and mount the **bottom** and **cap** either on your chuck or a jam chuck.



Turn your design.

Assembly

The crush-grind mechanism.



Using epoxy, glue the top portion into the spigot.

Allow it to dry overnight.



Since the mechanism will be glued rather than snapped in, the tops of the external tabs must be removed.

Use a pliers or an Exacto-knife.

File down with a bastard file.



Note that the mechanism on the right has had the tabs removed.



Glue the entire mechanism into the bottom of the peppermill.

Allow it to dry overnight.



After 24 hours, reunite the body and the cap.



