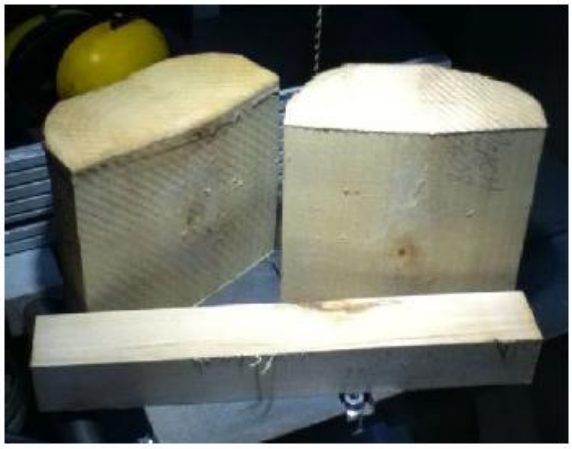
# TURNING A WIG STAND

A turned wooden stand is an attractive replacement for the ugly, one time use polystyrene stand normally given to chemotherapy patients to hold the wigs they wear when their treatment causes total hair loss.
All of the turned wig stands made and donated via the WGO will be given to patients at various cancer treatment centres.

I would like to challenge each WGO member to make at least one of these stands that we can then donate to local cancer treatment centres.

So. . . read on to find out how easy it is to make one – how about two or three! Even an inexperienced turner can make two of these in one day. It's a great way to use up those 'too small' bowl blanks sitting on your shelf.
If you have spare blanks or wood, give them to other members who can convert them into wig stands.
This project was suggested by Max Blum, who has already been making stands. Other turning groups have previously taken on this project. See the success by other woodturning groups at the following links:
Golden Horseshoe Woodturning Guild:
http://ghwg.ca/techniques/Wig_Stand_plans.pdf
The GHWG followed a project begun by the South Auckland Woodturners Guild, their plans can be found at:
http://www.sawg.org.nz/wordpress/wp-content/uploads/2011/09/Wig-Stand.pdf
A word of caution, the South Auckland project list, has enough to keep you busy for years!

**Raw materials list:** See photo below for examples.
Top and base:
**2 pieces: 6" x 6" x 2.5" (155mm x 155mm x 65mm)**
Dry bowl blanks as shown in fig. 1. or squared timber
Note: If using thinner pieces, ensure that mortises made in steps 4 and 11 do not pierce through top or base.
Pillar:
**1 piece: 1.5" x 1.5" x 9.5" (40mm x 40mm x 240mm)**



## STEP 1; mounting top blank

Mount blank for the wig stand head between centres. Ensure that blank turns true, this will help to conserve wood and make it easier to turn the shape.
To simplify turning, corners may be cut off or blanks may be bandsawn round before mounting on lathe.

## STEP 2; turning top outside shape

Turn the outside shape of the wig stand head.
Include a tenon for your chuck. For safety, the tenon should be at least 1.5" (38mm).
Shape as shown with a hemispherical top, almost straight sides. If using thinner stock, resist the temptation to turn a 'flat' top, this will result in wigs not fitting properly when stored and may affect their shape.

Turn the outer diameter to 5 3/4" (145mm).

## STEP 3; drilling hole for shaft tenon

Mount the top in a chuck, using the tenon made.
Turn the face flat across, don't forget to slightly round the outside corner for safety (sharp corners can cut your fingers).
Drill a 1" (25mm) hole, 3/4" (19mm) deep in the centre. This will be used to mount the shaft later. Easiest method is to use a drill chuck with a forstner bit mounted in the tailstock.
This hole can be later used to hold the piece in a chuck with 1" (25mm) jaws. If you do not have such chuck jaws, you can make a jam chuck for the 1" (25mm) hole.

## STEP 4; tuning inside of top

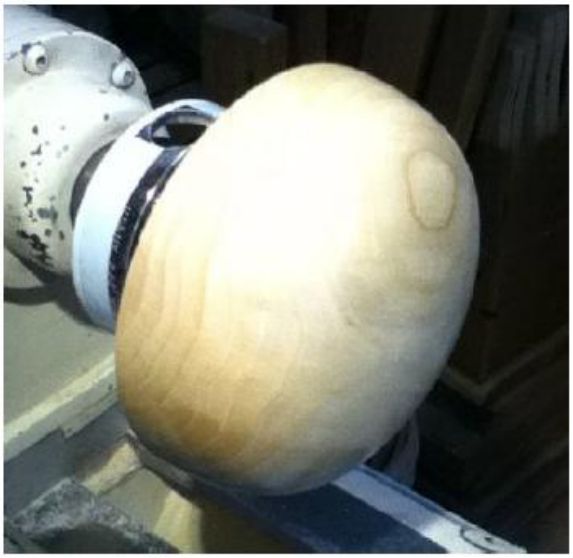
Hollow out the inside of the top as shown, leaving enough wood around the hole for strength. This hollowing reduces the weight of the top for stability of the finished stand and helps to prevent cracking.
Finish sand the underside of the top. A scratch free 220grit finish is suitable. Do not sand inside the hole.

## STEP 5; reverse chucking top

Turn the top around and mount in a chuck with 1" (25mm) jaws, or jam chuck.

## STEP 6; finish turning of top

Remove tenon and complete shaping of top. The top should have a slight domed curve shape as shown in the photo.
Finish sand the surface. A scratch free 220grit finish is suitable.
Note:
Ensure that the 'corner' where the top shape meets the underside does not have a 'sharp' edge.
You have now completed the top of your wig stand, ready for assembly and finishing.



## STEP 7; mounting & initial turning of bottom

fig. 5. Mount the blank for the base, between centres as shown in step 1 for the top.
Turn the preliminary shape of the base, include a tenon for your chuck.
For safety, the tenon should be at least 1.5” (38mm).
Suggestions:
Make the tenon large enough to include it in the final shape of the base.
Include a 'dip' in the outer part of the base's top that can be used to store jewelry such as earrings etc. It's not necessary to complete the shaping at this point, final shape can be done

## STEP 8; bottom, initial turning

Mount the base in a chuck using the tenon just turned.
Turn the bottom of the base flat and make a recess suitable for your 2" (50mm) chuck jaws.

## STEP 9; bottom, reverse chucking

Turn the base around and mount with expanding chuck jaws inserted into the recess formed in step 8.

## STEP 10; bottom, completion of topside

Turn the face flat. Note that the tenon used to mount the base in step 8 may be used as part of the finished piece.
Using a forstner bit, drill a 1" (25mm) diameter hole, 3/4" (19mm) deep.
Finish turning the base upper side. Ensure that there is enough material left around the hole to cover the shoulder of the shaft tenon and to provide strength around the completed stand.
Use your creativity to shape this surface, but do leave enough material around the hole to match the shaft design.
Finish sand this surface, a scratch free 220grit finish is suitable.
Do not sand inside the hole.

## STEP 11; bottom, completion of base side

fig. 12. Turn the base around and mount in chuck with 1" (25mm) jaws, or jam chuck. Finish turn the bottom with a slight depression which will ensure that the finished stand will be stable. The mounting recess may be removed at this time, or it can be included as part of the design.
Decorate the bottom, if desired.
Finish sand this surface, a scratch free 220grit finish is suitable.

## STEP 12; shaft design considerations

Before mounting the shaft for turning, cut it to final length. The marks left by your drive and tailstock centres will not be visible when the stand is assembled so they do not need to be removed.
**Final length of the shaft should result in a stand that is 11" – 12" (280mm – 300mm) tall.**
**If the top is 2" 'tall' and the base is 2" 'tall', the total shaft length needs to be between 7" and 8"**
**– BUT – the tenons will 'disappear' into the top and base, so the actual shaft length would then be between 8.5" and 9.5".**

The design of the shaft should include some thought regarding how the wig stand will be picked up. The shape shown in this example allows one hand to pick up the wig stand without slipping up against the top.
Note that the shape also has shoulders on the tenons so that the glue line disappears when assembled.
These shoulders are also slightly concave, to have the shaft fit tight against the base and top when assembled.

## STEP 13; turning shaft

Turn the shaft round and add pencil marks at the transition points for your design.
Mark off about 1/16" (1.5mm) to 1/8" (3mm) less than 3/4" (19mm) from each end for the tenons.
Remember they will be fitted into 3/4" (19mm) deep holes, so you should leave a little space for glue to prevent it from squeezing out past the shoulder.
fig. 14. Turn tenons at each end of the shaft. The shoulders should be very slightly angled so that there will be no gaps when
the stand is assembled. Remove the shaft and test fit before proceeding. The tenons should slip fit into the holes in the top and base, not tight and not sloppy.
As the tenons are made slightly shorter than the holes, the shoulders will rest flat against the base and top faces.

## STEP 14; shaft, final sanding

Finish turn the shaft according to your design.
Finish sand, but leave the tenon shoulder corners crisp so that the joint will 'disappear' after glueing.
Sanding to a scratch free 220grit finish is suitable.
Do not sand the tenons as this will affect fitting.

## STEP 15; final assembly

Glue the shaft to the base and top. Apply glue only to the sides of the holes, this will help prevent glue from squeezing out beyond the shoulder.
You could take a page out of the GHWG project and add screws and threaded inserts so that the unit may be disassembled, but this is not necessary.

Tenons and holes may also be directly threaded
1" x 8 tpi screw thread is recommended. If your lathe headstock is the same thread, you can then use the tap/die for making adapters etc.
To adapt dimensions for tapping/threading:
Drill 0.875" (22mm) holes in top and base
Shaft tenons to be 1.25" (32mm).

Finishing recommendations

The simplest finish would be a coat of polymerized Linseed or Tung oil, easily kept clean, simple to repair and, once fully cured (7 – 10 days) will not contaminate wigs. This type of oil finish is also not affected by compounds used in the making or care of wigs.
A hard varnish (esp. Urethane) finish will work quite well, although it is more difficult to apply. Varnish, when cured must be waterproof.

NOTES:

- Do not use non curing oil finishes
  e.g. Mineral or Walnut oil.

- Pure Tung oil is not recommended as it takes far too long to fully cure and may leave unwanted aroma on wigs placed on the stand.

- Shellac finishes could be damaged by compounds used in the making or care of wigs. Shellac is also not totally waterproof, a washed wigs hung to dry will eventually destroy the finish.

- Wax finishes could contaminate the wig.

- No finish, while acceptable, would be difficult to clean.