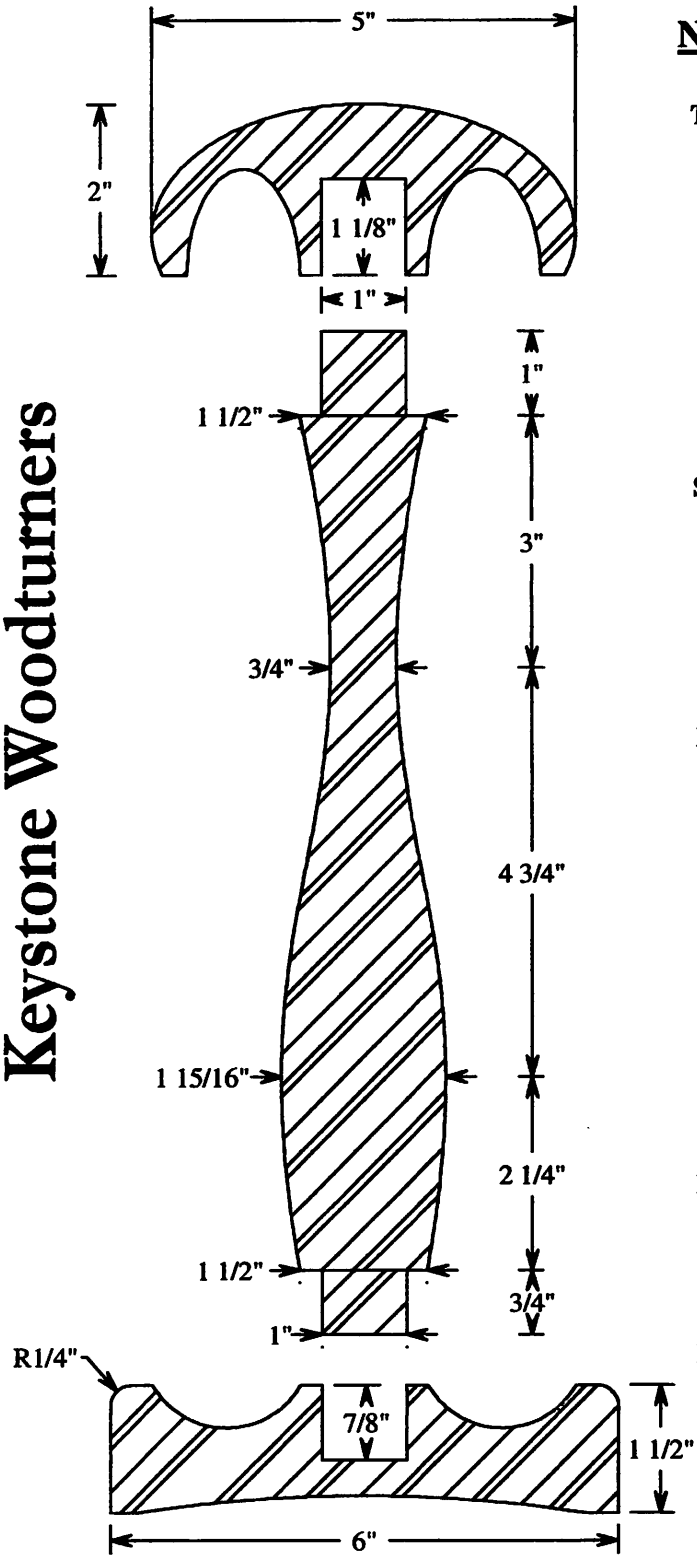
Wig Stand

Keystone Woodturners



NOTES:

TOP

1. Turn the top as you would a bowl. Diameter can range from 4" to 6" and the thickness from 2" to 3". Proportions should be pleasing.
2. Mount the piece between centers.
3. Turn the outside surface leaving a tenon.
4. Reverse the piece mounting it with the tenon.
5. Drill a 1" diameter hole 1 1/8" deep in the center.
6. Hollow between the center hole and edge to reduce the weight. Keep thickness greater than 1/4".
7. Sand the interior
8. Reverse the top again, holding it with spigot jaws in the expansion mode within the 1" hole.
9. Remove the tenon and sand the exterior of the top

SPINDLE

1. The spindle should be made last to allow the tenons to be fit snuggly in the top and base.
2. The visible length of the spindle may range from 10" to 15". Increasing the length of the spindle may require increasing the diameter of the base. (Note: This height is necessary to accomodate a woman's wig with long hair)
3. Any shape or wood may be used from a uniform diameter spindle to a highly complex shape.
4. Sand the spindle to the same grit as the top.

BASE

1. The diameter of the base should be roughly 20% larger than the top to provide stability.
2. Mount the base on a glue block or with double sided tape or with hot glue.
3. The exposed surface should be trued and turned, as much as possible, to the target diameter.
4. Drill a 1" diameter hole 7/8' deep in the center of the piece.
5. Turn a 1/4" radius on the edge.
6. Optionally, turn a recess on the top surface. This can be used to hold coins, rings, etc.
7. Sand this surface
8. Reverse the piece holding it on spigot jaws.
9. True the bottom surface and dish out the bottom so the assembly will sit properly on a flat surface.
10. Sand this surface.

FINAL STEPS

1. The stand may be subjected to water or solvents, so a waterproof glue should be used. Titebond III or epoxy is recommended.
2. For the same reasons, the finish should also be waterproof. Polyurethane is recommended.

REFERENCES

For more information Google "Wig Stands" on the internet.

Remember there are no strict rules. Any shape(s) are acceptable as long as they are attractive and functional.

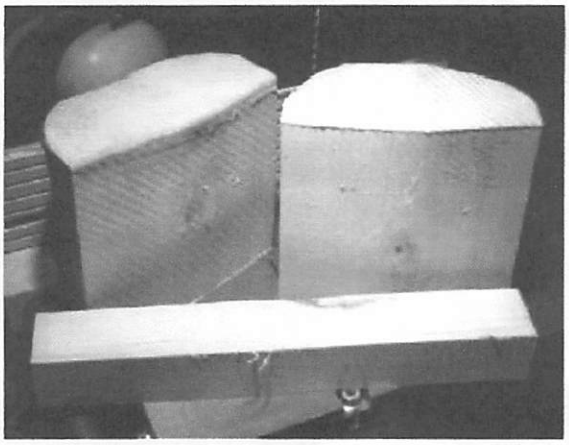
TURNING A WIG STAND

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.

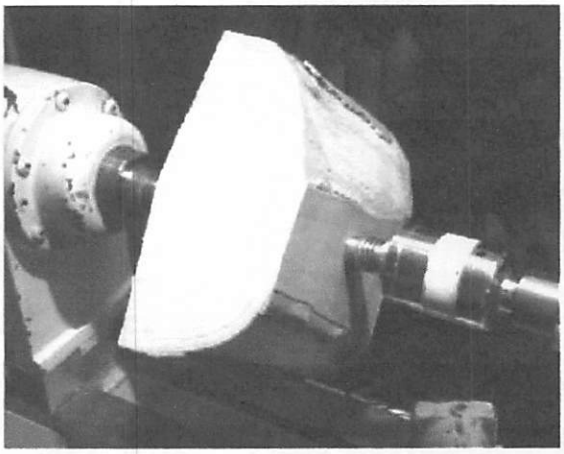
So. . . read on to find out how easy it is to make one – how about two or three! Even an inexperienced turner can make two of these in one day. It's a great way to use up those 'too small' bowl blanks sitting on your shelf.
If you have spare blanks or wood, give them to other members who can convert 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

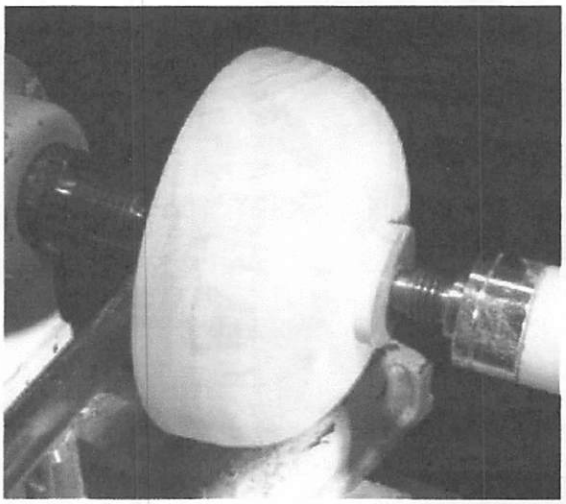
Mount blank for the wig stand head between centres. Ensure that blank turns true, this will help to conserve wood and make it easier to turn the shape.
To simplify turning, corners may be cut off or blanks may be bandsawn round before mounting on lathe.



STEP 2; turning top outside shape

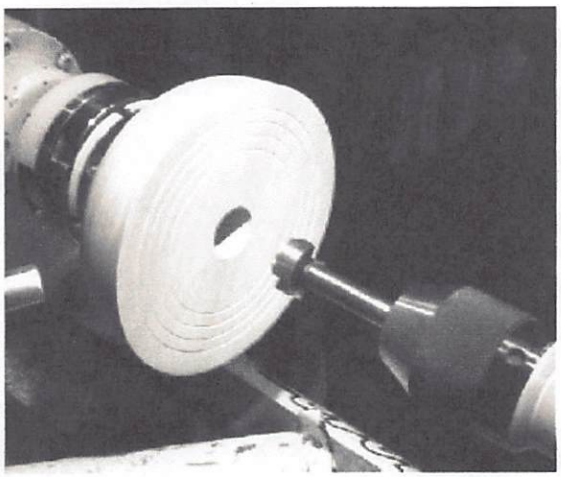
Turn the outside shape of the wig stand head.
Include a tenon for your chuck. For safety, the tenon should be at least 1.5" (38mm).
Shape as shown with a hemispherical top, almost straight sides. If using thinner stock, resist the temptation to turn a 'flat' top, this will result in wigs not fitting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

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



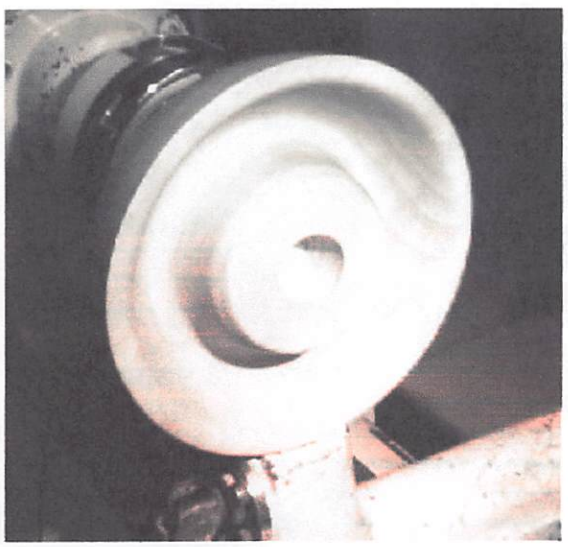
STEP 3; drilling hole for shaft tenon

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.



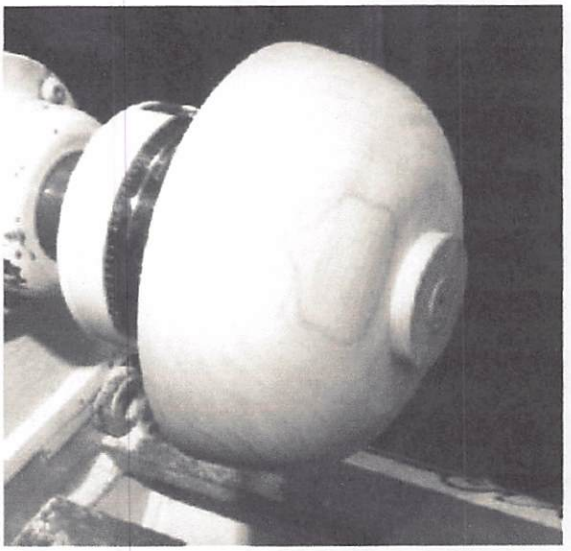
STEP 4; tuning inside of top

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.



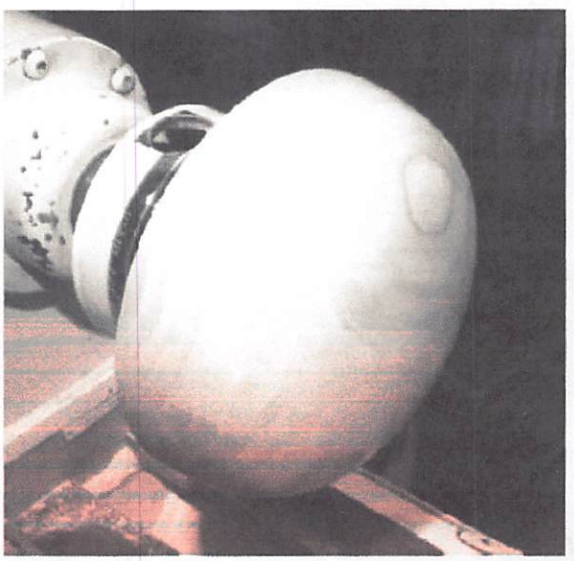
STEP 5; reverse chucking top

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



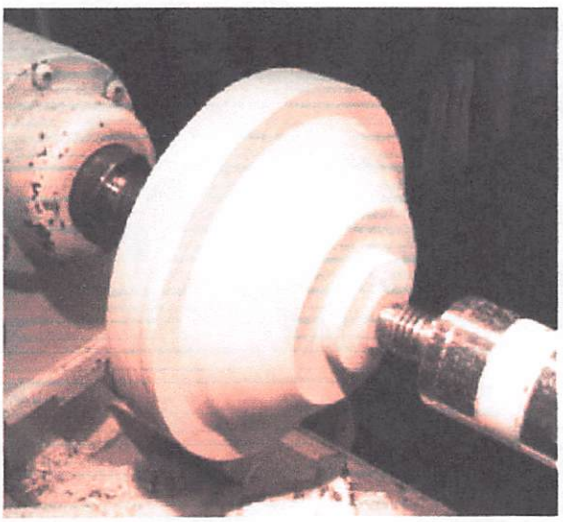
STEP 6; finish turning of top

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.



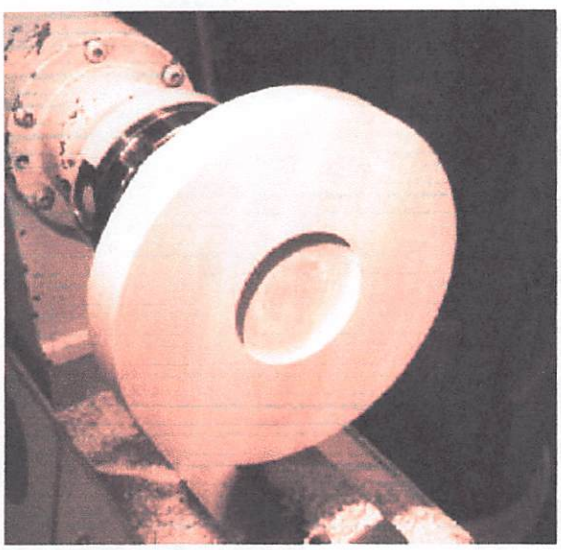
STEP 7; mounting & initial turning of bottom

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



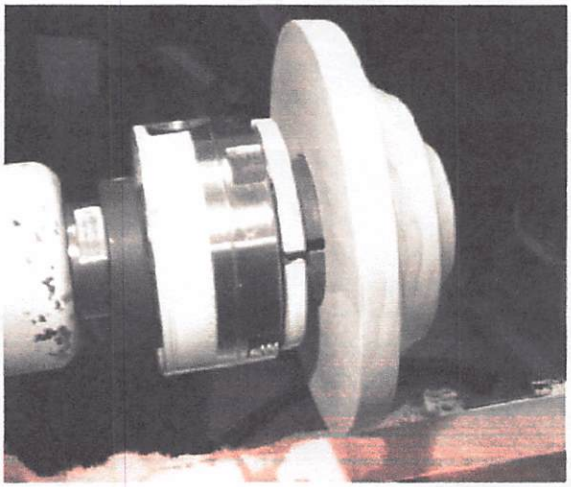
STEP 8; bottom, initial turning

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.



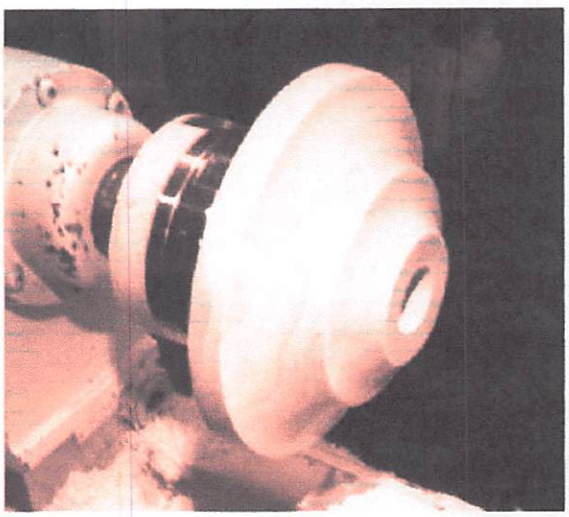
STEP 9; bottom, reverse chucking

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



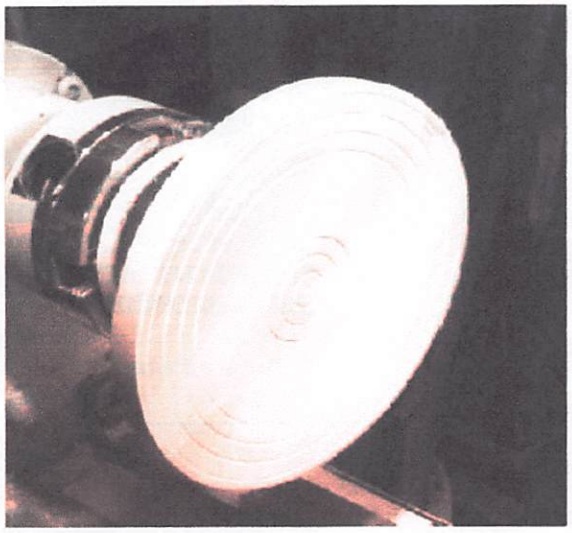
STEP 10; bottom, completion of topside

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.



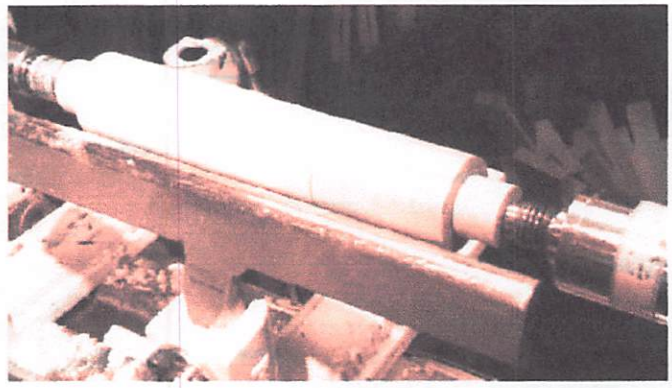
STEP 12; shaft design considerations

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

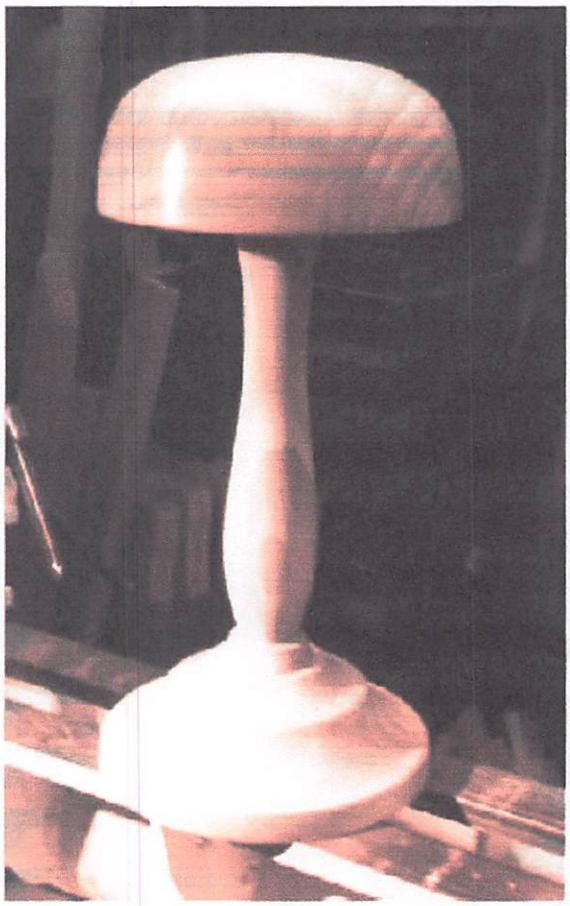
Turn the shaft round and add pencil marks at the transition points for your design.
Mark off about 1/16" (1.5mm) to 1/8" (3mm) less than 3/4" (19mm) from each end for the tenons.
Remember they will be fitted into 3/4" (19mm) deep holes, so you should leave a little space for glue to prevent it from squeezing 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.

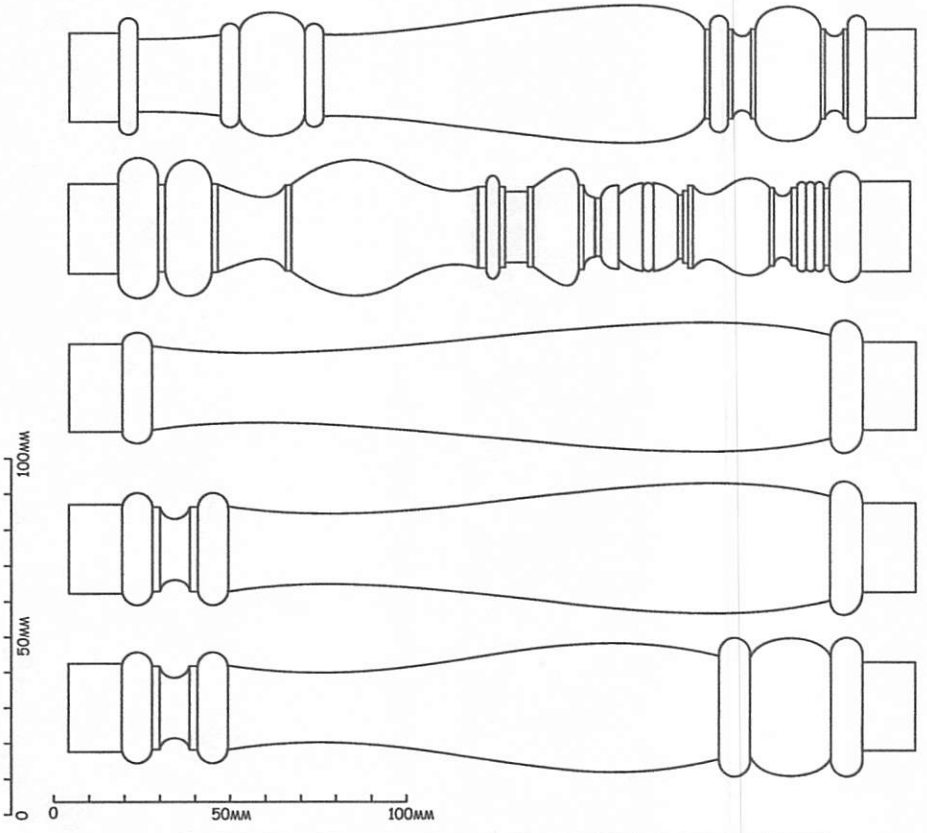
- Shellac finishes could be damaged by compounds used in the making or care of wigs. Shellac is also not totally waterproof, a washed wigs hung to dry will eventually destroy the finish.

- Wax finishes could contaminate the wig.

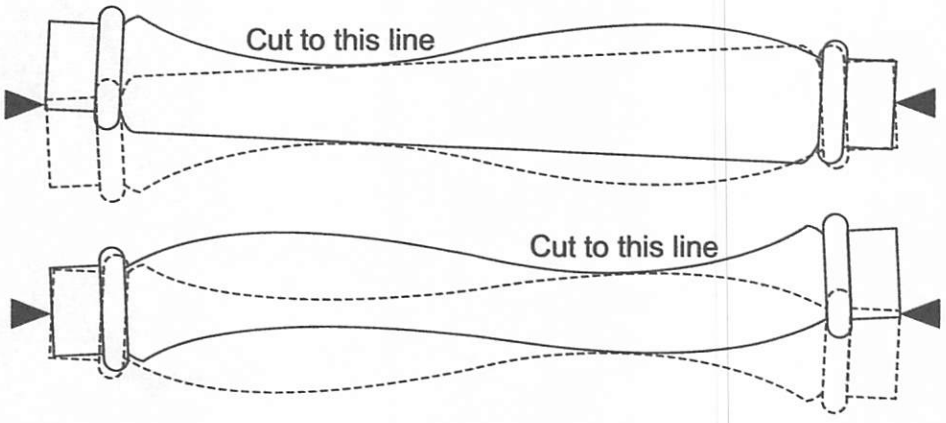
- No finish, while acceptable, would be difficult to clean.

SPINDLES FOR WIG STANDS

Shown here half size. Enlarge to full size and these will make excellent wig stand shafts. Or try one of the Multi-centre Spindle Designs.



Pseudo-cabriole. Make the wood round and turn the beads. Then turn with each end off-centre while the other end is on-centre as shown below. The off-sets are on opposite sides. For a tapered cabriole cut the wood to a taper before shifting off-centre.



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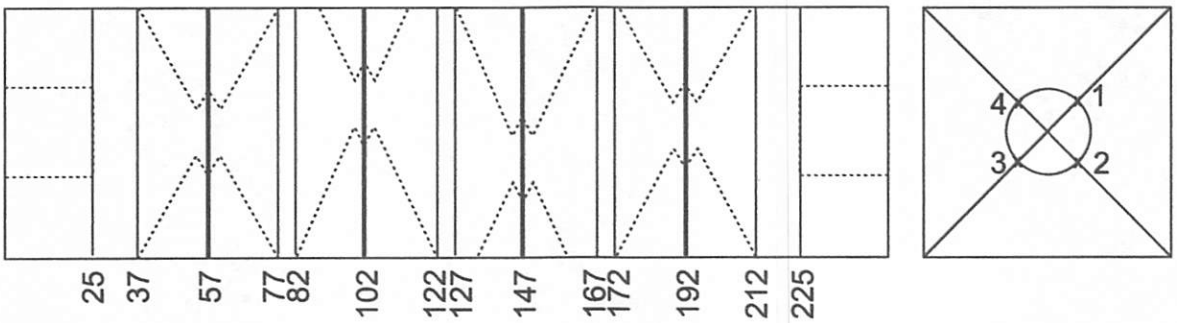
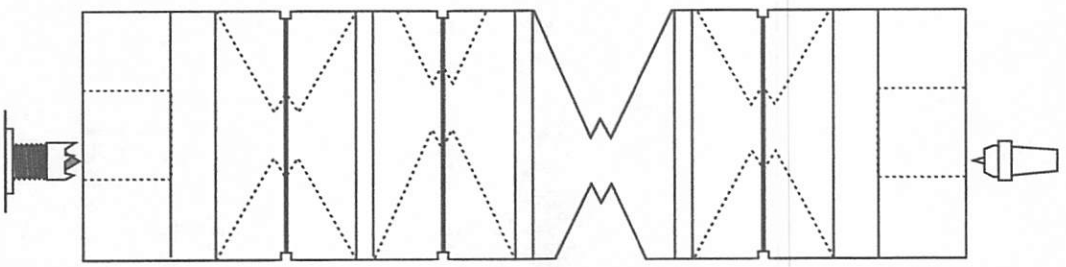
TURNING TOMORROW'S TREASURES

MULTI-CENTRE SPINDLE

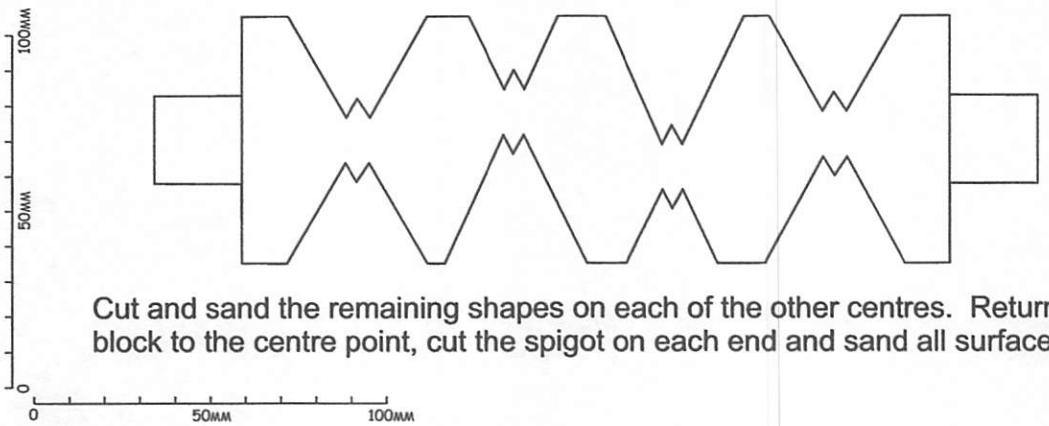
This design is based on the Phillip Greenwood Offset Candlestick project in Woodturning 268. For the four big notches he used, as in this project sheet, equal offsets at each end. You may wish to vary the offsets. The size shown here is for a wig stand stem, or you may turn it as a shorter/taller/fatter/slimmer form.



Start with a block 70 x 70 x 250mm long with the grain running lengthways. Mark the ends as above with four 12mm offsets. The numbers are the same on each end. Mount the wood between centres on the centre marks. Round the block and sand it. Make light and bold pencil marks as shown above. You may use a parting tool to cut a little way (just 2mm) down each bold line to show clearly where the cuts will be.



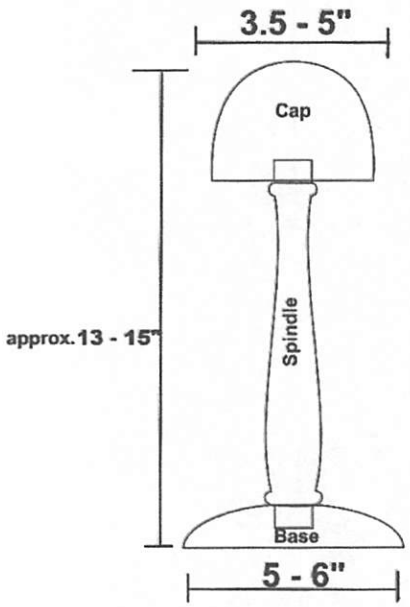
Remount the wood on one of the offset points. Cut one of the shapes close to the centre first. This may be done by starting with a parting tool down to a diameter of about 25mm and then completing the shape with spindle gouge and skew. Keep the sides of the cut at equal angles. Cut out to the light pencil marks. Sand all the cut area. When you understand the outcomes of the off-centre turning better you may cut beyond these lines on some cuts to produce a totally different look to the work.



Cut and sand the remaining shapes on each of the other centres. Return the block to the centre point, cut the spigot on each end and sand all surfaces.

Wig Stand Design

The height should be 13 to a max 15 inches.



The overall design of the wig stand can be as ***creative*** as possible within the following guidelines:

- Height 13-15" high approximately
- Cap – 3 ½ to 5"
  Rounded
- Base - 5 to 6" to complement the cap
  Should be heavy enough to provide stability
  A preference is to be dished out slightly to hold jewellery. This is not a requirement.
- Finish –
  - Since it is possible that these will get wet that varnishes, waxes and oils be avoided.
  - Polymerized tung oil
  - Polyurethane
- Wood -
  - Any type of wood can be used.
  - Segmenting and laminating possible but it would be recommended that a waterproof glue like Titebond 3 used and be completely **sealed with poly**.
  - Softwood woods like pine and cedar can be used but be aware that if you plan on staining there is lots of end grain visible that absorb a lot of stain

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There are various ways to create your project depending on the chucks and accessories you have available. See instructions on this site.

Below are the links and some pictures to other clubs that have done this. Note, the GHWG have made their wig stands that are detachable for there may be stored and shipped in a box. This has not been a requirement of the Durham Cancer Support Centre.

This project was originally conceived by South Auckland Woodturners Guild.

Links to there instructions are
http://www.sawg.org.nz/sawg/wp-content/uploads/2013/02/Wig-Stand.pdf
http://www.sawg.org.nz/sawg/wp-content/uploads/2013/02/Spindles-for-Wig-Stands.pdf

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Some cool examples from Woodturners Guild of Ontario (http://www.wgo.ca/)

For WGO instructions see page 2 -
http://www.wgo.ca/newsletters/2012_03.pdf

Some cool examples from Golden Horseshoe Woodturners Guild (http://www.ghwg.ca/)

For GHWG instructions see -
http://www.ghwg.ca/techniques/Wig_Stand_plans.pdf
http://www.ghwg.ca/techniques/Wig_Stand_Instructions.pdf

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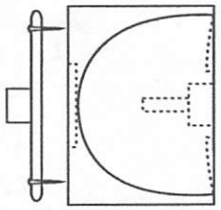
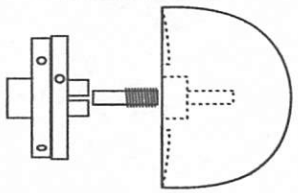
WIG STAND

Based on a photo in MWG Keen Edge

Wig Stand Head

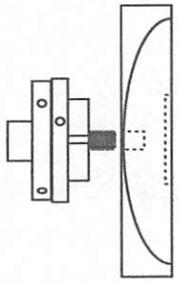


Start with a blank of lightweight wood 150 square by 110mm thick. This can be held as a square in a large chuck, or on a faceplate with wide-spaced screws, or by a chick in a drilled dovetail.
Flatten the face that is to be the underside. Make a dovetail to fit a 25mm chuck by 15mm deep. This will also be the dovetail to fit the shaft of the wig stand. Or you may drill an additional hole to remount this on a long screw chuck. Or you may cut a spigot around the 25mm hole. Sand and finish this underside.

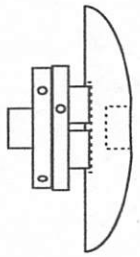


Turn the wood around and re-mount it on a 25mm chuck or long screw chuck. Round off the top of the wig stand. The upper half of this top is almost a hemisphere curving into almost straight sides for the lower half. This should now be about 140mm diameter and 100mm high. Sand and finish.
Non-drying oil and wax finishes are not recommended but drying oils, polyurethane or lacquer may be used.

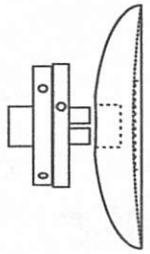
The Base



Start with a block of heavy wood about 160mm square and 50mm thick.
Mount this on a screw chuck or use a shallow drilled dovetail.
Flatten the bottom (not concave) and make a shallow dovetail to fit a 50mm chuck. Finish this surface now if the chuck dovetail is not being removed as detailed below.

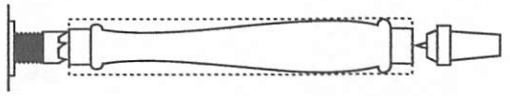


Turn the wood over and remount on a chuck using the dovetail. Round the wood off. Make the very top of the curve into a flat or slight concave where the shaft will fit. Make a dovetail to fit a 25mm chuck by 15mm deep. This will also be the dovetail to fit the shaft of the wig stand.
You may add beads and decoration to this surface.
Sand and finish.



You may now declare the base to be "finished" or turn the wood over and remount on a 25mm chuck or jam chuck. Cut the bottom to a slight concave to remove the chuck dovetail. Sand and finish.

The Shaft



Start with a piece at least 240mm long and about 40mm square. Place it between centers. Make a 25mm diameter by 14mm long spigot on each end. Turn the remainder to a shape of your choice.