

TRI-STATE WOODTURNERS



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Cuts and Scrapes

WWW.TRISTATEWOODTURNERS.COM

OCTOBER 2017 NEWSLETTER



Tri-State Woodturners an
official chapter of AAW

John K. Jordan

Oct. Demonstrator

A bit of introduction: I'm 67, retired from Oak Ridge National Laboratory 11 years ago, working in software engineering and 3D graphics, modeling/animation. I take care of over 60 animals on the farm: llamas, alpacas, horses, mini-donkeys, peacocks, guineas, chickens, turkeys, cats/dogs (plus honeybees).

My lovely bride and I have been married for 47 years - every year we enjoy Cape Hatteras in the fall and Europe in the spring - so far Italy is our favorite. My other big love is working with children - I've been teaching kindergarten Sunday School for over 25 years now and have lots of kids visit the farm. Good clean fun!

I haven't watched an hour of television in at least 12 years. I follow no sports. I play some music on piano, guitar, brass, and a few others. In past decades I did a lot of flying, whitewater kayaking and cave diving. Some other hobbies are photography, reading, reading, reading, drawing, sculpture, carving, playing with electronics, Legos, metal working, machining, welding, tool-making and gardening. I play hard in the dirt with tractor, backhoe, and bobcat. I love to make and repair things, build decks and

farm buildings. A sawmill behind the barn keeps me in wood.

A few years ago I cleared a spot near the barn and built a shop, 24x62, with space for flat wood, turning, little machine shop, welding shop, and more. I tell visitors I built the shop with my bare hands but I lie - I used tools!

I started woodturning over 15 years ago, learned from books by Raffan and Darlow. I like to turn a huge variety of things from big bowls to miniatures. I far prefer turning dry wood, both domestics and exotics.

I love teaching woodturning, especially kids and young people but old people too! The first tool in a beginner's hand is the skew chisel. I keep two lathes in

the shop but set up others as needed. I use CBN wheels with Wolverine and Tormek jigs to sharpen. My favorite tools are from Doug Thompson and Mike Hunter.

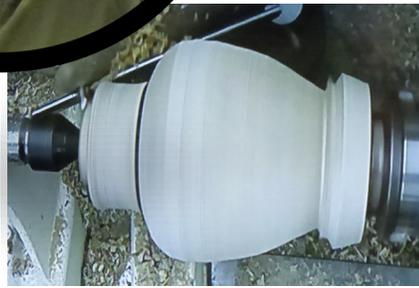
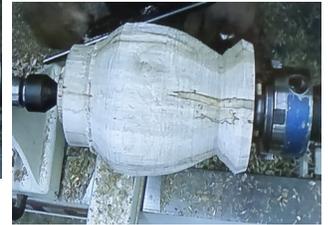
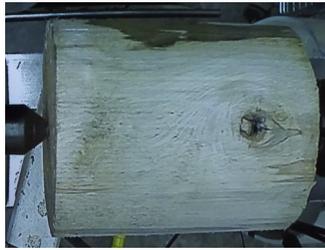
For this demo, we'll be looking at an easy way to make a Beads of Courage box/lidded bowl from dry wood. In addition, I'll give away all my secrets of turning long, thin spindles - one of my favorite things to turn!

John K. Jordan



September Meeting with Frank Bowers

Frank demonstrated turning a hollow vessel in two parts and then turned a three-sided bowl showing how to mount it and complete the project in different ways.



← The finished two-part hollow vessel

The demonstration was finished off with a brief demo turning a three sided bowl.



Treasurer's Report



The Web

Starting Balance	4,284.19
Income:	75.00
Wood Raffle	50.00
Snack collection	25.00
Expenses:	275.00
Demonstrator	275.00
Ending Balance	4,084.19

The state of Hawaii has an annual wood show featuring both flat work and items turned, made in Hawaii. You might enjoy seeing some remarkable wood craft as displayed in the show this year. These can be viewed at the following web-site. Maybe something here will inspire you as we continue to expand our skill level and artistic expressions. Check it out at: <https://www.youtube.com/watch?v=RCVGB6QigtE>



President's Corner

Remember the October meetings presidents' challenge is a hat. We've had several demos done that made wooden hats. At any rate, try your hand. . .or head at it and make a

hat, any size or style. Remember the more you participate the more likely you'll win a special prize at the end of the year.

And speaking of the end of year, ours is coming to a fast close. Our yearly Christmas banquet will be again this year at **Privateer Yacht Club, 4713 Privateer Rd, Hixson, TN 37343 on December 9 at 6 pm.** The meats are taken care of, but be thinking of vegetables, tea (sweet and unsweet), coffee, water, deserts and breads to bring. We'll have a sign-up sheet at this coming meeting.

At the Christmas party we have the silent auction. We ask you to bring anything you're willing to donate for the auction. We rely on the annual

silent auction to keep our yearly dues down and support the great demo's that Doug brings in. Simple or complicated all will be accepted. Tools, turnings, crafts of all kinds. I hope all of you will have fun with the bidding as I do.

Continue to think toward a new president. If someone would be willing to take over as Vice President, I would be willing to stay on as President and help merge them into the office for next year.

Last weekend we had a hands on demo by Doug Spohn making Christmas ornaments. He did a great job and had folks turning at lathes all over the building.

And lastly a word on safety. Again wear face shields, they might save your life. Having said that, I was inspired at the Dalton symposium they required ALL demonstrators wear one. We want to do the same at our meetings. Our sound system works just fine with the shield down and besides.....it's the right thing to do.

Next TSW Meeting Sat. Oct. 21, 2017

OCT. 2017

County Fair

Sept. 23-24 TSW had a booth set-up at the **Hamilton County Fair**. Three lathes were maned by turners both days and presentations were available to introduce people to the craft of woodturning. It was a busy week-end with many people visiting the booth.



Sawdust Session Oct. 14

Sat. Oct. 14th Doug Spohn conducted a Sawdust Session that was well attended. Many lathes were being used by those who registered to attend. They made the globe and finials for a Christmas ornament. Thanks Doug for leading this experience.



Sample of demo this Sat.



Club Challenge for September



↑ Art Parry ↓ Ed Lewis



↑ Bev deYampert ↑



↙ Les Isbell ↓ John Dekle ↓



Show, Tell & Learn - Instant Gallery



← Doug Spohn ↑

Bev deYampert ↑

Top left—Alan Vandergriff,

Bob Hough ↓

↓ Ed Lewis



Show, Tell & Learn - Instant Gallery



Above created by John Dekle

Below created by Les Isbell



An ornament is the club challenge for November

Joe Price has 100 gal. of alcohol and will bring it to the club meeting. If anyone wants some bring a container. He will sell it for \$5.00 per gal. Most people bring 5 gal buckets. If you want some contact Joe at 423-309-6329

Pens for Troops

The Oct, TSW meeting is the final time to return pens you have turned for the troops.

PLEASE be sure to return your completed pens this coming Sat. All the remaining pens will be returned to Woodcraft and they will distribute to the troops.

If you have questions call John Dekle (423)508-8051

Making a Spinner Top

by Fred Holder

The Spinner Top is good fun for children of all ages from about three years old up to 98. I make a lot of these each year. They were one of my bestselling items when I attended craft fairs. My tops are not fancy or ornate, they're just good spinners.

When I started turning these tops, I followed the general trend and used a solid block of wood about two inches square and about four inches long. I turned a lot of tops from pieces of wood like this, but felt it was a huge waste of wood. One day, when I was turning some wine bottle stoppers using a dowel chuck (a Jacobs Chuck that has the jaws ground to fit a 3/8" dowel) I noticed this pile of blocks about an inch thick that had been parted off from the ends of spindles. I thought, maybe these could be made useful. I drilled a hole through the center of one of them and glued in one of the 2-1/2" long 3/8" dowels I was using for bottle stoppers. When the glue was dry, I chucked it into my dowel chuck and turned a top. I had just discovered a way to use up all of those cutoff end pieces and produce a usable product at the same time!

In this project, I will use a slice of wood about one inch thick with a 3/8" dowel glued into its center. This method is the one that I now use exclusively because it requires less good timber.

Requirements for this Project:

- Piece of hardwood stock about 2" square by about 1" long, with grain running through the 1" length and a 3/8" dowel 2-1/2" long.
- Wood Glue (I use yellow glue)
- 3/8" drill with motor to drive it or drill press (can use the lathe to drill the hole if necessary)
- Dowel Chuck (for 3/8" dowels) or Collet Chuck (for 3/8" dowels)
- Spindle Gouge (3/8" or 1/2", with a preference for the 3/8" gouge)
- Skew Chisel for parting off the top
- Medium Grit sandpaper
- Wax and a polishing cloth

Note: I normally make my tops with the grain running in the spindle turning direction (parallel to the axis of the lathe), because when the grain runs the other direction there is a problem with the wood chipping at the point where the wood joins the dowel on the bottom.

Fabricated top blanks can be made from 1" thick slices

off of limbs that are 1-1/2" to 2" in diameter or scraps from turning other things. Drill a 3/8" hole as close to center as possible and insert and glue in a section of 3/8" dowel rod that has been cut to 2-1/2" long. When the glue is dry, give it 24 hours just to be on the safe side, chuck the dowel up in a dowel chuck or a 3/8" collet. The dowel chucks are available from Craft Supplies USA. I like the dowel chuck because it is easier to use than my collet chuck. Push the dowel into the chuck as far as it will go while turning the large part of the top. Make it round and then turn the bottom with a long slope to the point. When satisfied with the shape there, turn the top of the top to a pleasing shape and then clean up the very edge. Try to keep the edge under 0.1" and generally shoot for about 0.05" thickness. At this point, there is some of the dowel showing from the shaping of the top side of the body. I have found that hollowing the top of the top body makes a top that spins much better than one that has been domed.

Note: If you have significantly hollowed the top of the body, be sure to leave a small portion that is larger than the dowel to provide support for your glue joint.

The next step is to pull the dowel out of the dowel chuck. Leave about 1/2 inch of dowel in the chuck to provide adequate gripping of the jaws. Turn the stem to about 1/8" or less in diameter by at least one inch long. I recommend that the stem should be about one to one and one half of the body diameter. Sand the whole thing and apply a coat of wax. It brings out the color in the wood and makes the top look better. This is especially effective when people are watching you turn the top! Part off with a skew, leaving the top of the stem with a tapered, but slightly blunt point. This way the top can be spun either way. Finally, give it a test.

I should note that many people decorate their tops with chatter work and colored marking pens. I have never done this with my tops and do not feel it necessary when making a functional top.

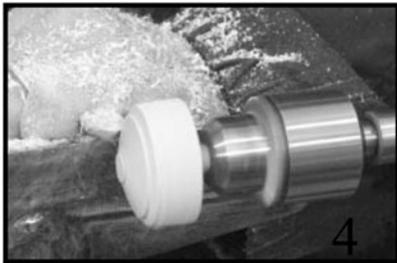
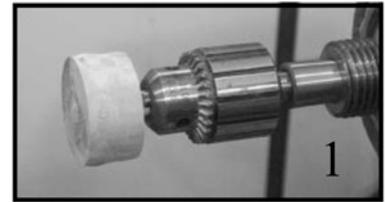
If you've only been turning bowls, you may be surprised at how rewarding it can be to turn a few spinner tops. I consider them instant gratification, because you can generally turn several in an hour. I remember making the statement once that I could turn one in about a minute. A fellow challenged me and pulled out his stop-watch. I was really under the gun. I parted the top off in just 59 seconds, but I doubt that I've ever turned one that fast since. They normally take five to ten minutes and they do help one to develop good tool control.

The following photos and captions will tell the story of how to make a top. Have fun!



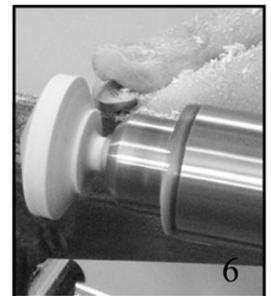
Here are a couple of my tops. The one on the left was made from a solid chunk of wood while the one on the right is made from a fabricated top blank using a slice of an oak tree branch and a maple dowel. Note the cupped or bowl-shaped top part of the main body. I've found that tops turned like this spin better than flat or domed tops.

Here the fabricated top blank has been inserted in the dowel chuck. The dowel chuck jaws are ground to mate with the surface of a 3/8" dowel and not damage the wood. Once the blank is mounted in the chuck, it should be turned round to correspond with its mounting. This should be done before any other turning is done.



Face off the end of the top blank at a slight slope. I begin this cut with the flute straight up and then roll the flute over as the cutting begins so that the cut down the face is a nice shearing cut. Begin to form the taper of the bottom part of the top body. Continue making cuts starting at the outside rim and continuing toward the center of the spinning blank. After entry, rotate the flute to point away from the headstock and cut wood with the spot just below the center of the tip. As you near completion of the bottom of the top body, the cut should be made from the outside rim all of the way to

the very tip. The tool should cut cleanly across the center to produce a very sharp point for spinning.



Once the bottom of the top body has been completed, it is time to turn the top of the body. This is begun very similar to the other side, except you are now turning down toward the headstock and the chuck.



I like to hollow the top side of the top body to give it a dished form. I find tops turned this way spin better and longer. As the dishing is started, as much material as possible is left near the center.



It is important to leave a little step up from the lowest point of the dish to provide additional support of the glue joint. See photo of the finished top.

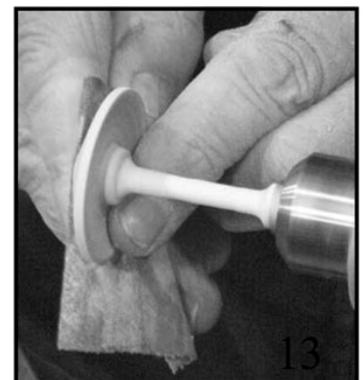
When the turning of the main body of the top is completed, it is time to pull the dowel as far out of the dowel chuck as possible. I try to leave about 1/2" of dowel in the chuck and find this to be adequate support for turning the stem. When turning the stem, you must work from the base of the top body back toward the chuck. While you have as much strength in the stem as possible, turn the part nearest the top body. Con-

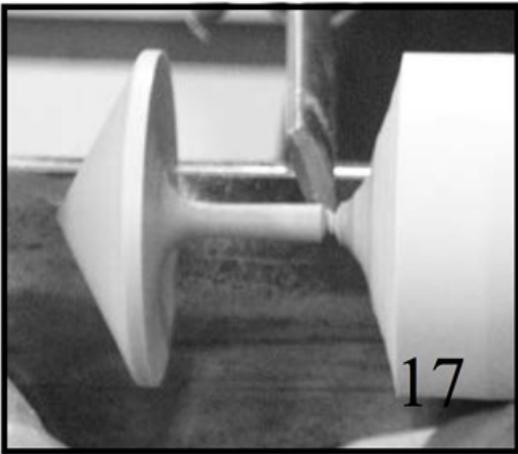
tinue turning the stem back toward the chuck. When the stem is completely turned, I run just the tip of the gouge back and forth along the tool rest to take off the tops of the little ridges before sanding.



Sand the bottom of the top while supporting with a finger of the left hand. At this point the stem is very fragile. Sand the top of the top body while supporting it with the fingers of the right hand. Fold the sandpaper until it is narrow enough to properly sand the stem of the top. Do not exert too much

force on the stem because it is fragile. With the sanding complete, I like to apply a light coating of wax and buff the top to bring out the color in the wood. Children don't really care whether it is waxed, but I do.

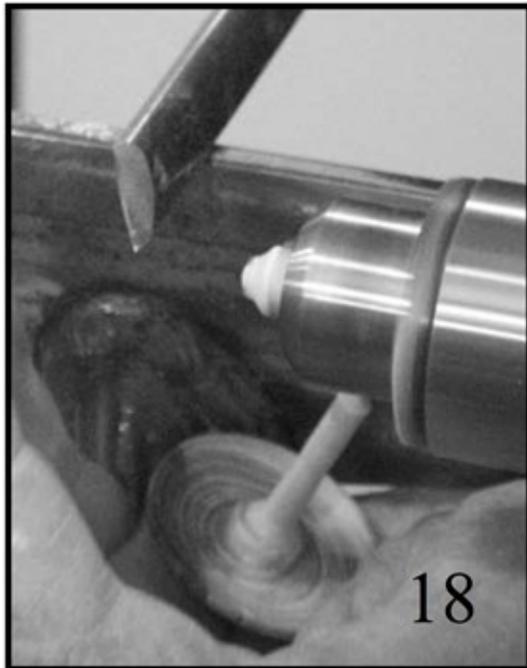




Once the waxing is done, part off the top with a skew chisel. Make a deepening "V" cut at the end of the stem. This provides a pointed stem, which allows the top to be spun upside down.

With a little practice, you can manage to catch most of the tops when they are parted off. When demonstrating at shows or other events, I like to employ the assistance of someone in the audience to catch the top. If everything is done properly, the top simply falls off into your hand.

I hope this simple little project will inspire you to turn more tops to give to children of all ages. You can also exert a lot of creativity to make your tops into works of art by adding texturing, such as chatter applied with a chatter tool, beads, loose rings, and of course colors with felt tip marking pens. There are many organizations around the country and perhaps the world where donated tops would be greatly appreciated. In many cases, it might be the only toy the child has. Give it some thought!!!



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Silent Auction—Dec. 9, 2017

Now is a good time to mark this date on your calendar. Also a good time to start planning what you could donate to the Silent Auction which will benefit TSW club.

PENS FOR TROOPS

Members of TSW have stepped-up big time to turn pens for the troops. Don't forget, if you took a kit to turn, be sure to return it at the meeting this coming Sat. We will provide a final count in Nov.

The Benefit of a Well-Made Tenon



Have you ever made a tenon for a scroll chuck only to reverse your bowl and discover it doesn't turn true? If you understand what shape and dimensions are required for a tenon to fit the jaws of your chuck most securely, and then make the tenon accurately, your bowl will turn truer and reduce the time required to retrue it.

Most of my experience is with dovetail jaws. They pull the jaws tight against the base of the tenon as they are tightened around the

tenon, which creates the best potential for a true fit. Profile jaws clamp straight in against the tenon compressing the wood with the serrations of the jaws and are less likely to clamp with as much accuracy.

The inside of dovetail jaws, the clamping part, is smaller in diameter around the base of the tenon and larger in diameter around the end of the tenon. When the tenon is properly formed, the larger diameter of the end of the tenon will not pass through the jaws, holding the work securely in the jaws of the chuck.

It is best, when possible, to make the tenon the appropriate diameter to fit the jaws when the chuck is scrolled in nearly all the way. Scroll chuck jaws are manufactured in a completely circular form and then cut into four separate jaws that slide toward the center of the chuck as they tighten around the tenon.

Vicmarc jaws form a perfect circle when there is a 2mm gap between adjacent jaws to allow for the kerf of the saw blade that was used to cut them into four jaws. When cutting a recess in a bowl blank for the outside of dovetail jaws to expand into, make the recess just larger than the jaws when they are completely closed. When the jaws are expanded beyond a true circular form, they will still hold, but your work is more likely to turn true when the jaws make contact completely around the tenon.

Author

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V.P. Cascade Woodturners

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HOW I TURN LONG, THIN SPINDLES

John K Jordan jordanjk@gmail.com

Turning long, thin spindles can be a challenge. The shaft can flex, chatter, and vibrate causing lots of problems and perhaps even breaking. These notes are to show the way I usually turn thin spindles. I use turning a magic wand as the example but much of the same applies to other relatively long, thin spindles such as conductor's batons.

This photo has a few examples, in Cedar, Purpleheart, Dogwood, and Cherry. The one on the bottom is the one I did for this tutorial. As an example, I made it thinner than usual which was more of a challenge. I also didn't spend much with detail or making it look well balanced. The second one from the bottom is a finished Dogwood wand before the support is removed. The biggest problem: how to keep the wood from vibrating, chattering and possibly breaking while turning.



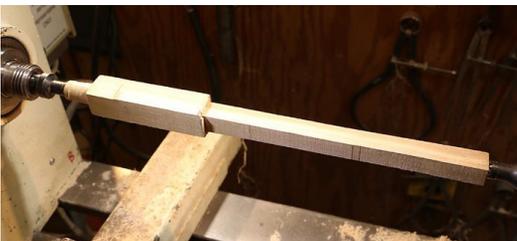
Wood selection and preparation: Start with good wood. Pick a blank with the grain running as straight as possible along the axis. Grain at an angle, figured or burlled, knots, punky, spalted, lots of wormholes, and such can make the shaft weaker and it can flex more easily and break. I usually use a blank about 1" or so square and 13" to 15" long. For magic wands I usually remove some of the wood at the shaft as shown in a later photo. This saves a lot of time since I don't have so much to turn away on the lathe. It also gives me lots of cool strips of wood to give to the kids!

Holding the blank: How the blank is held is important. If held between centers, you have two end pivot points and the wood can easily flex between them and cause many problems. If one end is held tightly in a chuck and the other in a center, the first 1/3 to 1/2 is restrained from flexing and the whole thing is a lot stiffer. I don't actually hold it in a chuck but use a jam chuck. I turn a short #2 Morse taper on one end then jam that into the headstock spindle. This has several advantages: First, it eliminates the chuck and rotating jaws and gives more working room at the end. Second, I can turn longer shafts on a smaller lathe, for example, when I take a mini lathe to make magic wands at a public demo. (I make up blanks ahead of time on a bigger lathe.) Third, a real advantage is the piece can be removed from the lathe and returned with perfect registration, something not easy or even possible with a chuck.

I made a small gauge from a piece of brass which lets me make a perfect taper every time. Without a gauge size the taper with calipers at two points. After turning the taper, I always use a parting tool to cut a small relief between the high and low ends which lets it seat better in case the taper is not perfect.



Getting ready to turn: For this exercise I picked a Black Cherry blank from my stash of wand blanks. These two photos show the blank, first with the Morse taper cut, then with it jammed into the lathe spindle. Bring up the tailstock to seat it firmly then release



a little. Too much force on the tailstock can cause problems such as bending and splitting when the shaft gets thin. Think about the design - end, handle, transition, shaft, and tip. For small children avoid points.



Tools: Skew chisel, small roughing gouge, spindle gouge for handle detail. A spindle gouge can be a problem on the thin shaft since a small vibration can make the wood ride up over the tip and cause a catch. A skew is better since the flat bevel supports the edge. A small roughing gouge would be my second choice, acts a bit like a curved skew. Tools should be very sharp. I usually hone and strop on leather.

Turning: I turn at a high speed, usually 2500-3000 RPM or so. The inertia from the rotating mass tends to make the shaft vibrate less. Also, for the best finish off the tool spins very fast and cut very slowly. Make everything round and for a magic wand, rough out the handle. The handle can be finish-cut and even sanded first but I usually like to wait until I develop the transition between the handle and shaft.



Begin tapering and shaping the shaft. I generally use a skew chisel for this. A small roughing gouge will also work. As the shaft gets thinner the fun begins. When it starts to get thin the shaft will probably start to vibrate and chatter during the cut or it may even vibrate on its own without even touching it.



Strategies for handling the vibration.

- **Tools and cut** First, I do not do what I saw on a YouTube video - sand to size with 80 grit paper. Yikes. I rarely use sandpaper coarser than 320 or 400 grit. However, if you have not yet developed spindle turning skills, the 80-grit gouge may be the only option for now. Make light cuts with very sharp tools. I almost always use a sharp skew for thin shafts. I like a 1/2" skew but a larger one works fine. Note that a 40-45 deg grind on a skew might not cut as well but is more "forgiving" than a 25-30 degree angle.

The skew can support the wood with a wider bevel than a spindle gouge and the straight edge is more forgiving. A roughing gouge will also work. It's kind of like a curved skew. Sometimes loosening the pressure from the tailstock helps if you have it too tight. Sometimes tightening it a bit helps - experiment.

- Support

A steady rest is traditionally used for longer spindles. This doesn't work well here since it gets in the way. Also, most steady rests won't close enough to support a thin spindle. I use the "left hand steady rest" method - I can't turn these without it. I rest my left arm on top or against the headstock and cradle the spindle lightly with my left hand. (This is perfectly safe. Don't wear long sleeves.) I use my left thumb to lightly support and guide the tip of the skew. This provides excellent fine control. The fingers curve around and provide support for the cut. This, of course, requires holding the tool with the right hand only. I grip very near



the tip and support the end of the handle by forcing it against the underside of my forearm. This supports the tool well. Note that as the tool is moved along the shaft, the left hand has to move with it. The pressure needed for support is very light if the cut is very light. As Richard Raffan said, if the wood gets hot from friction on your hand, you are using too much force with the tool!

- Tailstock pressure

Sometimes the shaft will want to vibrate even when supported with the hand. As before, I try either tightening or loosening the pressure from the tailstock. Then I try different things to see what works the best. Sometimes I will switch to another tool, say a skew with a different angle. Sometimes reversing the direction of the cut will make a big difference. When working on the left end,



I might support the right end by crossing my hand over the tool. I have had some very thin shafts vibrate regardless of what I did. I don't worry about it too much when shaping but it's horrible when doing the finish cuts. Instead of resorting to sandpaper, I use a small cabinet scraper.





- Tap to fix

One oddity: if you do happen to put sudden force on the side of the shaft perhaps with a catch or some enthusiastic turning (or a careless bump), it may knock a bow in the shaft which wants to stay. However, this can usually be fixed. I simply use the tool handle to tap the shaft several times in the middle while it is spinning. Usually after several strikes it will hit just right and knock it straight again. If necessary, release a little tailstock pressure first. Some woods are worse about this. It's not often a problem but a good thing to know.

Sanding and finishing

I sand with the lathe running and then turned off. Before moving to a finer grit, I sand with the grain to remove any scratches from that paper. Be careful not to round over and soften crisp detail. After the shaft is done I finish turning the handle then apply a finish on the lathe, usually Mylands shellac-based friction polish. Remember the shaft is fragile so to avoid side pressure just squeeze the finishing cloth around the shaft. I always use a small piece of cloth for safety, although with thin spindles like this the shaft will break harmlessly long before you rip your fingers off with a large cloth. I like to use beeswax to finish cedar wands, applied with the lathe running and melted into the surface with friction from a small piece of cloth.



Texturing

If texturing, be sure to support to prevent bending. I sometimes use a star wheel texturing tool. Other things that work well are burning a line with a fine wire, distressing with a pointed tool, and carving.

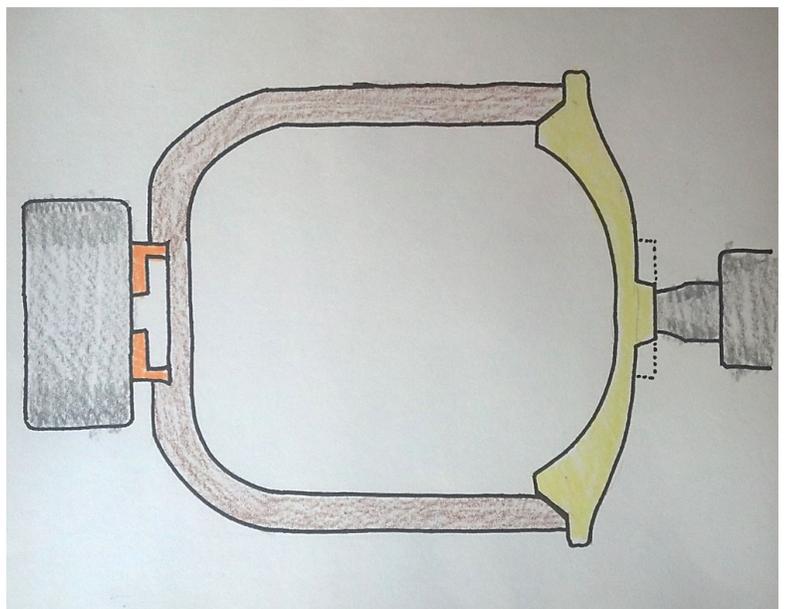
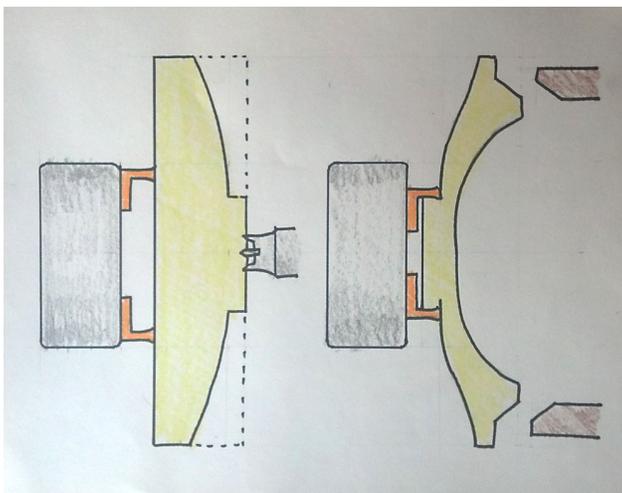
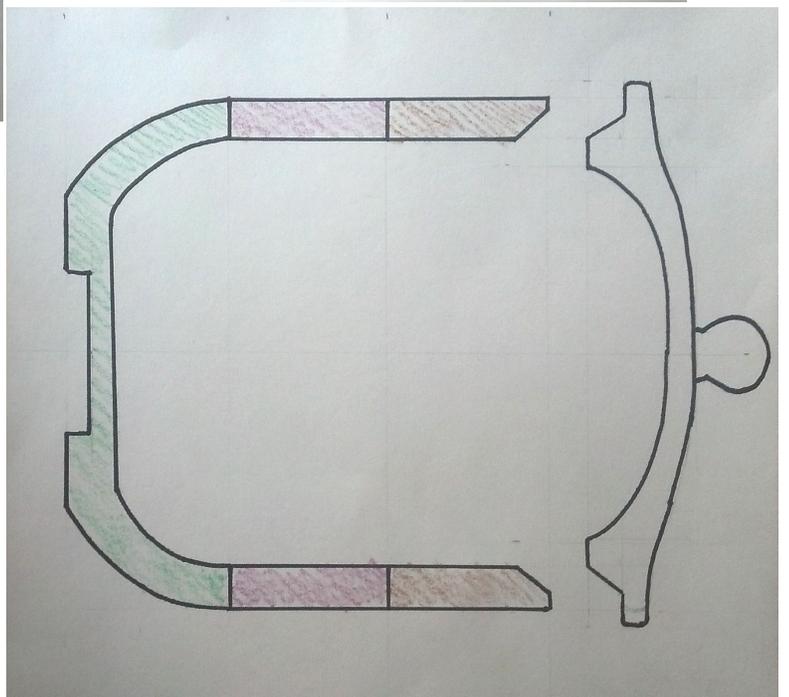
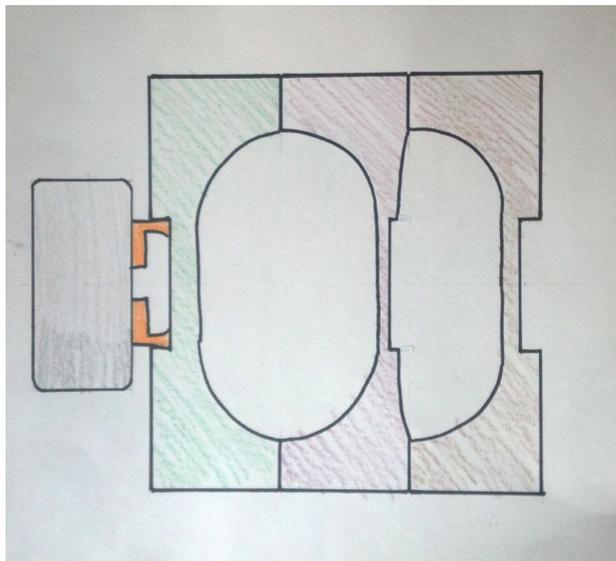
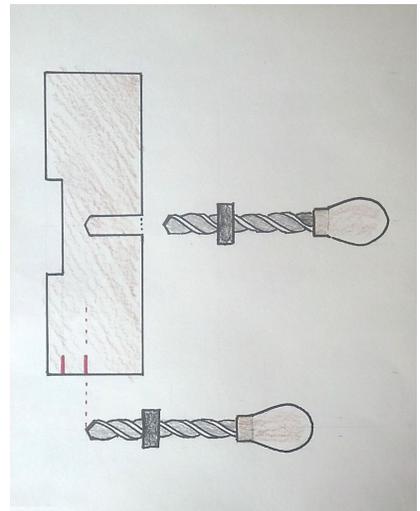
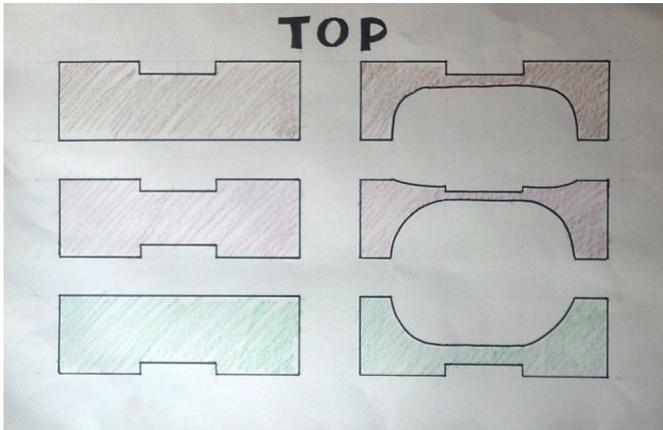


Finishing up

I cut off the tip with the skew, then thin and saw off at the handle. If the end is broken off, you risk pulling out fibers and causing damage that cannot be fixed easily. I sand and finish the ends by hand. Here is the end result. Done in a rush, nothing spectacular, but I hope this explains my technique. The possible variations are infinite. Multi-axis handles are fun, both two and three axis. Sometimes I make a wand in two parts, turning the handle and shaft separately and gluing the halves together using a small tenon. A three-part wand can have a contrasting bead or detail between the handle and the shaft or a handle made from several parts or segments.



Beads of Courage Box - Handout



TURNING "BEADS OF COURAGE" BOX WITH MULTIPLE LAYERS

JK Jordan
3/15/2017

This method is shown on YouTube by Harry Meyer. He uses 2 layers of 3/4" lumber. The method shown here uses more layers.

Think about size Minimum on BOC web site are too small: 5" ID, 4" inside depth. A cylinder that size would be only 79 mm

Suggested: 5" min at opening. Larger is better

Some cylinder volumes

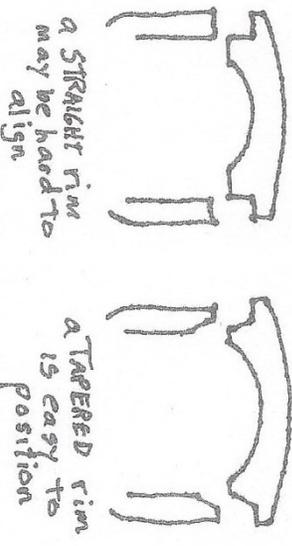
131 in ³	6.5" dia	5.5" depth
127	6"	4.5"
133	6.5"	4"
135	7"	3.5"

Read guidelines about design finishes on beads-of-courage.org

Some design requirements:

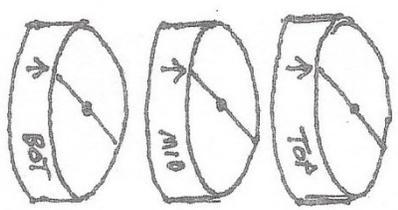
- Stable - does not tip (bottom heavy?)
- Final / handle - easy to grip
- Simple, sturdy - may be dropped
- Lids - easy for small child to open and close

My suggestion on lids: Use tapered rim



WOOD PREP

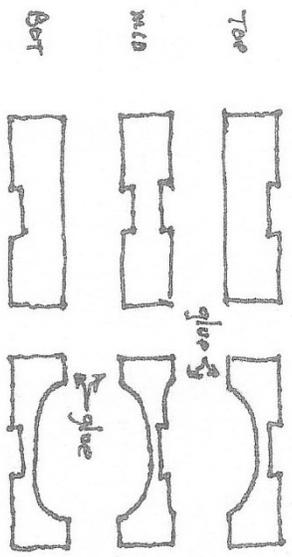
CUT BLANKS ROUND - a little oversized if possible
 Mark grain direction and which side to be up
 Mark center if not already marked by compass



Pieces will be glued with grain aligned

THE PLAN

Make recess for chuck in each piece (can use Tenons but they waste more wood)



Hollow each layer to make turning inside easier later
FLATTEN where they will be glued

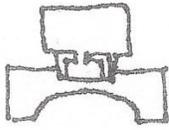
Width of flat glue ring will depend on the final box shape and wood thickness
 ★ It is best to plan ahead and make a drawing of the design

Avoid SURPRISES!

TURNING THE BLANKS

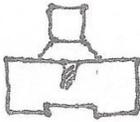
TOP LAYER

Recess - I like to use a 2 1/8" or 2 1/8" Forstner bit on the drill press. This fits a 50mm / 2" jaw set.



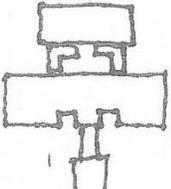
1. Mount in chuck
2. Hollow
3. FLATTEN RIME for gluing

without Forstner bit - screws chuck



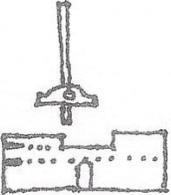
Mount in screw chuck
cut recess (parting tool?)

without Forstner bit - pressure (more difficult)



Expand chuck jaws
Hold Pressure with tailstock
cut recess
Mark center with pointed tool

Mark depth to hollow

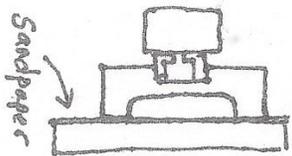


I use a 5" depth gauge to measure recess

Transfer recess depth to side of blank
Mark desired hollowing depth on side
I use a drill bit with a depth stop
To make center hole

Hollows - just like turning a bowl

FLATTENING the rim for gluing



Sandpaper



Hold against spinning wood
Can support block with tail rest

True with gauge, scraper, etc.

Flatten with sandpaper and block

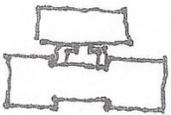
BOTTOM BLANK is done exactly as the TOP blank

The MIDDLE BLANK needs hollowing on both sides

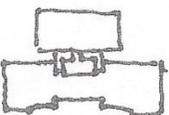


I drill a recess on one side

Hold in chuck, cut or drill recess on opposite side



Shallow hollowing on one side - just enough to allow sanding rim flat



Flatten rim on this side

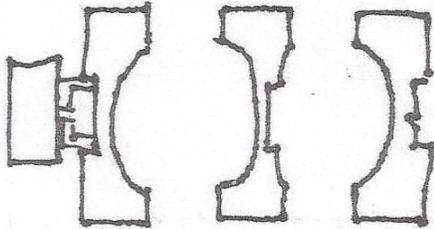
Reverse and hollow other side

Flatten this rim

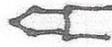


GLUE UP

can be positioned on lathe or large clamp



Position on lathe

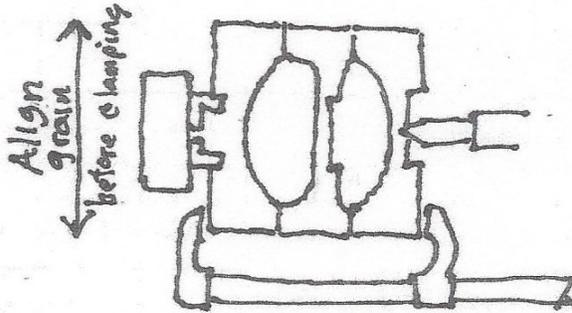


APPLY GLUE

ALIGN GRAIN ON EACH BLANK

Hold in place with tailstock and clamp

Use at least three clamps



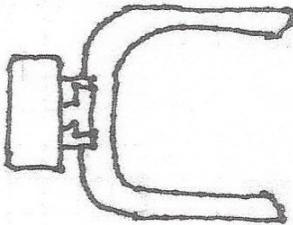
HOLLOW BOX

shape outside

Hollow

Shape rim

Sand

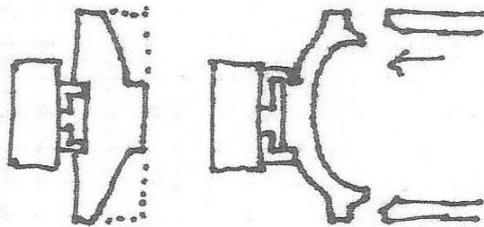


LID

Hold in recess and cut tenon

Hollow lid

use box to fit ~~the~~ lid



Remount box and hold lid with tailstock to cut away tenon

Finish top shape

Pare away rest of tenon by hand

