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# AMERICAN WOODTURNER

Journal of the American Association of Woodturners

August 2016 vol 31, no 4 • woodturner.org

## SCALING K2: KEITH GOTSCHALL

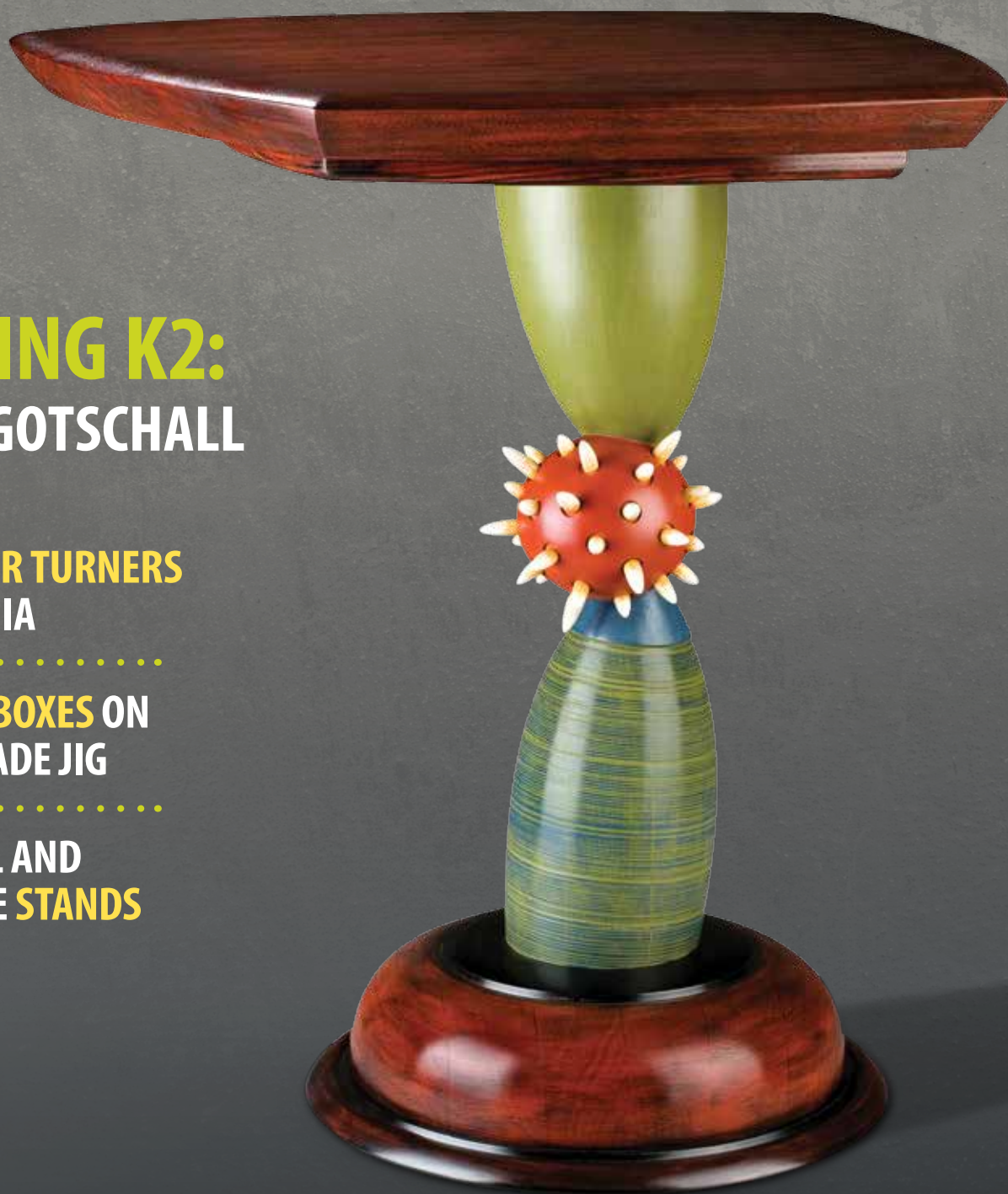
TIDEWATER TURNERS  
OF VIRGINIA

.....

TWISTED BOXES ON  
A SHOPMADE JIG

.....

GRACEFUL AND  
VERSATILE STANDS





# InstantGalleryAwards

Atlanta Symposium 2016

Except where noted, all photos by Andi Wolfe.

## Youth Awards

**Steven Messinger, *The Wild***

*Horses of Shackleford Banks,*  
North Carolina,  
2016, Ambrosia  
maple, veneer,  
2" x 14"  
(5cm x 36cm)



Photo: Michael Andersen

**Michael Andersen, *Phantom Petals*, 2016, Maple burl, mesquite burl, brass rod, 7" x 5 3/4" x 5 3/4" (18cm x 15cm x 15cm)**

## Collegian Awards



**Scott Davies, *Sunburst*, 2015, 11" (28cm) diameter**



Photo: Ian Anderson

**Ian Anderson, *Lunar Finalescape*, 2016, Box elder burl, maple burl, bloodwood, 9 1/2" x 5" x 5" (24cm x 13cm x 13cm)**

## Excellence Awards



**Margaret Garrard**, *Summer Time*, 2016,  
English sycamore, 4" × 8½" × 3½" (10cm × 22cm × 9cm)



**John Wessels (spheres) and Tom Wirsing (bowl)**,  
*John's Bowl of Spheres*, 2009–2016, Maple bowl, various woods for spheres,  
sheet pewter, cast pewter, solder wire, tin alloy, silver rod, acrylic paint,  
metal rub, bowl is 4¼" × 17" (11cm × 43cm),  
spheres range from 1¼" to 3½"  
(3cm to 9cm) diameter



**Tom Wirsing in collaboration with Avoova**,  
a Cape Town, South Africa, company  
specializing in the use of ostrich eggshells,  
*Avoova Platter*, 2016, Big leaf maple, ostrich eggshell inlay,  
2½" × 17¾" (6cm × 45cm)



**Baxter Smith**,  
*Autumn Oak*, 2014,  
Red oak, dye, 18" × 6½"  
(46cm × 17cm)



**Eric Gourieux**, *Trumpet  
with Note Stand*, 2015, Maple,  
African blackwood, brass rod,  
ivory, 9" × 20" × 5½"  
(23cm × 51cm × 14cm)

Photo: Kim Gourieux



**Ron Gerton**, *Desert Dancer*, 2016,  
Curly maple, cast bronze, frosted glass,  
31" × 9" × 11" (79cm × 23cm × 28cm)



Dedicated to providing education,  
information, and organization to those  
interested in woodturning

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## Inside This Issue

August 2016 vol 31, no 4

### FEATURES

#### 16 Graceful and Versatile Stands

A project that highlights precision and detail in faceplate  
and spindle turning, by Chris Grace.



#### 20 Build Your Skills and Train Your Eye by Turning a Sphere

Kip Christensen shows how turning a sphere can  
teach you a thing or two.



#### 26 Make Your Own Soft Jaws

Works like a four-jaw chuck, but without tool  
marks, by Bill Ooms.



#### 29 Segments with SketchUp

A simple and powerful tool to visualize your work  
in three dimensions, by David Heim.

#### 32 Twisted Boxes on a Shopmade Jig

A new twist for the surface detail on turned  
and lidded boxes, by David Springett.



#### 39 Turning Multiaxis Pad-Foot Legs

Russ Coker demonstrates the techniques for  
turning legs in this classic style.



#### 44 Tidewater Turners of Virginia Portrait of an Active Chapter

Demos, tutorials, teaching, and Myron Curtis energize  
the club, by David Heim.

#### 47 Balloon Assist for Filling Voids

Turning imperfections into assets with some ingenuity  
and hot air, by Peter M. Smith.



#### 48 Scaling K2: Keith Gotschall

Versatility, pride in the process, and excellent shop skills let him create  
whatever his clients or personal muse might summon, by David M. Fry.



# AMERICAN WOODTURNER

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## ASSOCIATION NEWS

- 4 Editor's Note  
Joshua Friend

- 4 President's Letter  
Greg Schramek

- 5 AAW Annual Financial  
Statement for 2015

- 5 Changes to  
Membership Dues

- 5 Prize Drawing for  
AAW Members

- 6 2017 Board Candidates



- 8 Call for Entries: 2017 POP Exhibition  
*The Sphere – Second Round*

- 8 In Memoriam  
Neil Scobie—a Friend for Us All

- 9 Call for Entries: 2017 Member  
Exhibition—*Waves of Grain*

- 9 2016 Best Chapter Newsletter/Best  
Chapter Website Contest Results

- 10 POP Artist Showcase Opportunity

- 10 Introducing AAW VideoSource  
A VISION 2020 Initiative

## WOODTURNERS CHATTER

- 11 Turners Without Borders  
Visits Kathmandu

- 12 CCW Participates  
in Rise and Shine

- 12 MAW Continues Outreach

- 12 TAW Donates TVs  
to Arrowmont



- 13 Book Review  
*Wood! Identifying and Using Hundreds  
of Woods Worldwide*, by Eric Meier

- 13 DVD Review  
*Mastering Woodturning with  
Glenn Lucas: Dublin Viking Bowl*



- 14 Tips

- 15 Calendar of Events



## GALLERY

- 1 Gallery  
Professional Outreach Program  
Instant Gallery Awards  
Atlanta Symposium 2016



- 53 Members' Gallery  
Michael Alguire  
Albert Jan Rouwkema

- 71 Advertising Index

## COVER

**Cover** – Keith Gotschall, *Desert Fruit*, 2009, Poplar, African mahogany, milk paint, 29" x 23" x 24½" (74cm x 58cm x 62cm), Collection of Tom and Melinda Wirsing

**Back Cover** – David Belser, *My Better Half and Stick Ball #2—Rematch*, 2016, Walnut, half cube is 7" x 7" x 3¼" (18cm x 18cm x 8cm), sphere is 5" (13cm) diameter



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## A NOTE ABOUT SAFETY

An accident at the lathe can happen with  
blinding suddenness; respiratory and other  
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Take appropriate precautions when you  
turn. Safety guidelines are published online  
at tiny.cc/turnsafe\*. Following them will help  
you continue to enjoy woodturning.

\*Web address is case sensitive.

## Editor's Note




In this issue of *American Woodturner*, Kip Christensen offers a simple method of turning a sphere (page 20). It is an excellent skill-building project, as it teaches important lessons in grain orientation and provides an opportunity to practice making symmetrical curves. Dick Gerard, one of AAW's founding members, offers one method of embellishing a sphere (page 24), but the possibilities are endless.

This sphere treatment appears in the journal serendipitously with the call for entries for next year's Professional Outreach Program

(POP) exhibition: *The Sphere—Second Round*. For more on this special exhibition, see page 8.

In his President's Letter (below), Board President Greg Schramek discusses woodturning chapters and volunteers and the important relationship they have with the AAW. This message dovetails nicely with David Heim's profile of a successful chapter (page 44), complete with an homage to that chapter's driving force, Myron Curtis.

  
—Joshua Friend

## From the President



### Volunteerism

The success of AAW's involvement in woodturning as an art, craft, and hobby is dependent upon its thousands of volunteers.

Upon retirement, I told a friend my

focus would be on woodturning. He responded positively but cautioned that wood working is a solitary activity; keep golfing, it's more social. I then joined a local chapter and got heavily involved through volunteering. My turning involvement has become so social, I crave those solitary times alone in my shop.

Chapter clubs are groups of five to hundreds of individuals who share a common interest. They share their skills and knowledge, helping each other expand and improve their pieces. They get other people involved in turning. They are also giving of themselves and become de-facto volunteers. As these chapters grow, they require structure. Monthly meetings, locations, demonstrators, equipment needs, and membership recruitment require leadership to step up and make everything run smoothly. The bigger the club gets, the more complicated the structure.

What is a volunteer? It's an individual who gives his time, efforts, and ability without pay or expected recognition for the benefit of the organization. Why do people volunteer? It makes them feel good. It keeps them busy working with other people like them. It makes

their club bigger with more resources.

However, "without pay or expected recognition" may not be wholly accurate. Observing the enthusiasm of a member who has made her first piece, tried a new technique, or simply said "Thanks" is payment beyond monetary measure.

Who are volunteers? The assumption that, in an organization, ten percent of the people do ninety percent of the work is, I believe, not completely true. Not everyone wants to be a leader or has the time. We all have different skills, and there are no unimportant tasks in volunteering. I believe that most club members are volunteers and that those who give as much as they can are rewarded with a chapter full of friends whose lives are enriched by woodturning.

### The Association and its chapters

What does all this have to do with the American Association of Woodturners? Everything. The AAW is structured as a national organization with many local chapters that help carry out its mission. The AAW supports its chapters with educational resources, examples of best practices, and more. It continues to exist because hundreds of volunteers provide the leadership required to provide products and services such as the AAW Annual Symposium, *American Woodturner*, the AAW website, and many other learning and organization opportunities. Where do all these volunteers come from? They are continually developed at the local chapter level—through

personal connections and direct involvement opportunities.

In my last President's Letter, I told you about VISION 2020, AAW's initiative to expand its learning resources to better meet member needs into the future. I'm happy to say the VISION 2020 initiatives will be of direct benefit to chapters, providing, for example, easily accessible learning curricula, member recruitment and retention strategies, a demonstrator development program, the new VideoSource website (see page 10), and much more. This is one way the national organization is supporting local chapters, and when we presented details about VISION 2020 at the chapter meeting during the Atlanta Symposium, the enthusiasm was resounding.

### Thank you

By the way, my thanks on behalf of the AAW board and staff to all those individuals whose volunteering made the Atlanta Symposium the success it was. A special thank you to the Atlanta-area and Georgia chapters who were active "below the radar" during the year prior to the Symposium and "above the radar" at the event. This is only one more example of the local chapters making the AAW look great.

Looking forward,



Greg Schramek



# AAW Annual Financial Statement for 2015

Dear AAW Member,

This was a successful year for the AAW. We posted a \$99,000 net gain, a significant recovery from the small loss in 2014. Part of this gain is restricted to specific programs, but more than \$50,000 is unrestricted and thereby adds significantly to our unrestricted reserves (our “rainy-day” emergency operating money). We still have more to do to build this reserve to a level that insures sustainability, but our performance in 2015 is a major step forward for both this and expanded services outlined in VISION 2020.

If you're not yet familiar with VISION 2020, I invite you to read more on page 10. It is both a comprehensive analysis and a tailored action plan for better serving the AAW membership.

The recent independent audit of our 2015 financials found no irregularities in our accounting practices and no significant concerns regarding our financial health. Also, this report referenced the helpfulness of the staff and the effective governance of the board. Congratulations to all. ■

—Joe Dickey, AAW Treasurer

## Revenues and Expenses Balance Sheet (as of 12/31/15)

### Income

Annual Dues .....	\$815,193
Symposium .....	584,605
Publications & Products.....	348,960
Contributions.....	217,591
Government Grants .....	—
Other Income.....	20,575
Investment.....	(2,503)
<b>Total Income.....</b>	<b>\$1,984,421</b>

### Expenses

Symposium .....	\$641,645
Publications & Products.....	466,116
Gallery & Exhibitions .....	97,258
Scholarships.....	58,660
Professional Outreach .....	33,587
Other Programs .....	29,766
Administrative.....	318,888
Fundraising .....	5,796
Member Development.....	233,091
<b>Total Expenses .....</b>	<b>\$1,884,807</b>

**Net Income .....** **\$99,614**

**Restricted Portion .....** **47,037**

**Unrestricted Net Income.....** **\$52,577**

### Assets

Checking & Savings .....	\$577,668
Accounts Receivable .....	15,647
Grants Receivable .....	—
Inventory .....	31,685
Prepaid Expenses .....	119,929
Investment Securities.....	212,698
Permanent Collection .....	207,115
Property & Equipment.....	23,098

**Total Assets.....** **\$1,187,840**

### Liabilities

Accounts Payable .....	\$41,553
Accrued Expenses .....	13,277
Deferred Revenue .....	646,158

**Total Liabilities .....** **\$700,988**

### Net Assets

Unrestricted.....	\$(46,914)
Temporarily Restricted.....	159,111
Permanently Restricted .....	374,655

**Total Net Assets .....** **\$486,852**

**Total Liabilities & Net Assets .....** **\$1,187,840**

## Prize Drawing for AAW Members

One of the many benefits of membership in the AAW is our monthly prize and year-end grand prize drawings. Thank you to the vendors who donated this year's prizes, which include tuition scholarships, \$100 certificates, sanding supplies, DVDs, chucks, grinding jigs, symposium registration, and lathes! Contact Linda Ferber if you would like to contribute a prize, linda@woodturner.org.

When you patronize our vendors, please thank them for their support of the AAW. To see a listing of each month's prizes and winners, as well as hyperlinks to the vendors' websites, visit [tiny.cc/AAWDrawings](http://tiny.cc/AAWDrawings).

At the end of 2016, we will draw another name from our membership roster to give away a Powermatic 3520B lathe. That winner will name a local chapter to win either a JET 1642 or five JET mini-lathes. The Powermatic and JET lathes are donated by Powermatic/JET. Included is free shipping in the continental USA, or up to a \$500 allowance for international winners.

### 2016 Donors

(Others may be added during the year.)

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North Woods LLC  
Tennessee Assn of Woodturners  
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Totally Turning Symposium  
Trent Bosch



## Changes to Membership Dues

At the June AAW Board of Directors meetings, two changes impacting membership dues were approved, effective October 1, 2016.

1. Dues will increase by \$5 for U.S. membership types, as follows: General \$60, Family \$65, Educator \$60, Student \$24, Student Plus \$29, Online \$50, Artist \$86, and Business \$86. Dues will remain at 2015 rates for all U.S. members who renew before October 1, 2016.
2. Dues for international memberships will be equivalent to U.S. membership rates and

based in U.S. dollars before exchange rates are applied. This will eliminate the additional premium charged on international memberships in the past. International members who renew on or after October 1, 2016, will receive the new rate.

Since 2012, the Board has made substantial progress strengthening AAW's financial reserves to sustain and grow the organization. Membership dues support the long-term financial health of the AAW and fund all of

our educational programs and services. This revenue will also enable us to deliver an expanded range of beneficial learning resources and value-added services recommended by members and chapters through AAW's VISION 2020 strategic initiatives.

We value your continued membership, appreciate your support, and thank you for being part of this vibrant organization. ■

Greg Schramek, President, AAW Board of Directors  
Phil McDonald, AAW Executive Director

## 2017 Board Candidates

The Nominating Committee is pleased to present the following six candidates who are running for the AAW Board of Directors. AAW members elect a nine-member board to volunteer their time and energy to represent the membership in moving the AAW forward. Board members may serve two consecutive three-year terms.

You can vote for up to three candidates. There are two ways to vote: 1) by electronic ballot, available on the AAW website at [tiny.cc/BoardVote](http://tiny.cc/BoardVote) (case sensitive) or 2) by paper ballot. If you would like to cast your vote

by paper ballot, please request a paper ballot be sent to you by calling or emailing the AAW at 877-595-9094 (toll free) or [inquiries@woodturner.org](mailto:inquiries@woodturner.org).

We encourage you to participate in the voting process and hope you will help make this election turnout significant. Your vote must be cast electronically or received in Saint Paul between August 1, 2016, and midnight CST October 21, 2016.

—Jeff Brockett, Chair, Nominating Committee

### David Heim, Connecticut



I turned my first bowl and joined the AAW in 2003. Now, I'm proud to be a board member for my club, the Nutmeg Woodturners League. This year, I initiated an innovative project involving AAW's Turners

Without Borders and the Greenwood organization, using a human-powered lathe to teach woodturning to artisans in Honduras.

For the past ten years, I've been able to use my talents as a writer and editor to help introduce people to woodturning and expand

their skills. The books I've edited include *The Frugal Woodturner*, by Ernie Conover, and *Turning Toys*, by Richard Raffan. I've also edited and written a wide range of articles for *American Woodturner*.

For twenty-eight years, I was one of the top editors at *Consumer Reports*, managing day-to-day operations for one of the largest magazines in the U.S. I then moved to *Fine Woodworking*, where I was an associate editor for four years.

I am running for the AAW board for three reasons: One, to help the AAW cement its reputation as the primary source of information and advice on turning techniques, projects, safety, trends, and design. I believe my publishing background can help the AAW use its

unsurpassed store of knowledge to benefit the widest possible audience and attract new members. Two, to give chapter information increased prominence online and in print, highlighting how innovative chapters handle demonstrations, regional symposia, and community outreach. I also want to help find ways to foster more and better community outreach from the chapters. Three, to continue my work with Turners Without Borders, so the AAW can continue to introduce woodturning to people worldwide.

The AAW's current leaders have smart, ambitious plans for the future. I would like the opportunity to help bring those plans to life, and I respectfully request your vote.

### Greg Schramek, North Carolina



I view woodturning as a passion and volunteering both in the AAW and its chapters as an obligation I'm happy to fulfill. As a turner, I demonstrate and teach. I donate many of my pieces to non-

profit organizations.

The AAW has a long, successful history in the promotion of woodturning. With thousands of members, it has evolved into a business and requires board members who bring management skills to the organization.

I have held executive positions prior to retirement with large communications companies in North America and Europe. In addition to leadership skills, those positions required knowledge in accounting, legal, labor relations, planning, and public relations. I also volunteered and provided leadership to many nonprofit organizations and municipal planning boards.

I have been on the board of Carolina Mountain Woodturners for a number of years and served as its president for three years. Most recently, I have been on AAW's board, serving as treasurer in 2015, and currently as its president. In addition to being president, I serve on the executive committee, finance

committee, the Educational Opportunity Grants committee, and the positioning oversight committee. The president's role gives me the opportunity to name all committee chairs and monitor their activities, a great learning opportunity. I look at my involvement in AAW as a job and give its demands top priority.

So why am I again running for the board? It's fun and it's an honor. I meet and work with amazing individuals who challenge and stimulate me. Mostly, though, my career skills, my love of turning, and, most importantly, the experience I've acquired in providing leadership to local chapters and to the AAW equip me to help AAW grow and meet the needs of its membership in the future. Oh, and did I say it's a lot of fun?

### Ken Ledeen, Massachusetts



Woodturning has been my passion for nearly twenty years. Talented teachers got me started, and the AAW sealed the deal by providing access to countless turners willing to share their interest and expertise.

In my decades of AAW membership, I've had great experiences at our local chapter and at the national Symposia. I've seen tremendous progress in all areas, but there are still opportunities to grow the AAW, to serve the membership, to foster the relationships with

local chapters, and to make the resources we all enjoy even better.

My first AAW Symposium was in 2002. Chapter meetings continued the process of learning and have led to fantastic friendships. Thanks to the AAW, this year I spent a month in Kathmandu, Nepal, as a volunteer with a team of wood artists led by Jacques Vesery, the AAW 2015 POP Merit Award recipient.

In addition to leading several software companies, I served as a director of public and private corporations and nonprofits. I chair a committee of sixty-five-plus volunteers (plus countless others) responsible for the success of an annual event for 40,000 attendees. For twenty years, I have been a senior member

of a volunteer fundraising team, including several years as vice-chairman of the executive committee, that has raised more than \$10 billion. For five years, I taught a course at Harvard with two colleagues. The course led to the publication of a critically acclaimed book on the impact of technology on our lives (*Blown to Bits: Your Life, Liberty, and Happiness After the Digital Explosion*).

Why vote for me? A fifty-year career leading organizations and volunteer groups has given me the skills to work with others to get complex problems solved and complex tasks completed. I respectfully ask for your confidence, support, and vote. It would be an honor to serve you.





## Candidate Videos

In addition to their written statements displayed here, the six Board candidates have also recorded supporting video that may help you, the voting membership, in choosing your favorite candidates. To view these supporting videos, please visit [tiny.cc/Candidates](http://tiny.cc/Candidates) (case sensitive) or scan the QR code.



### Mike Summerer, Maine



I have been a woodturner for more than twenty years and an AAW member since 1999. Moving around during my career, I have been an active member of West Michigan Woodturners, the

Nutmeg Woodturners League, the Association of Revolutionary Woodturners, and Eastern Maine Woodturners. Like most of us, I was largely self-taught at the beginning, but the resources of AAW and its chapters helped get me on the right path to effective and safe

technique. Over the years, I have had the pleasure of introducing others into our wonderful hobby and profession. Recently, I have retired and have been able to start regular basic woodturning classes in my own shop in Downeast Maine, sponsored by a local arts organization.

I am honored to be considered for membership on the board of the AAW. During my career in medicine and hospital management, most recently as a hospital CEO, I have had experience working with and on nonprofit boards, addressing quality and financial challenges for these organizations, and was successful in leading teams to prepare them for the future. This involved strategic planning, dialog with other healthcare and

political organizations, development of training programs to develop leadership in physician groups, and mentoring of young physicians and administrators. My experience in working with these service-based nonprofit organizations will translate well into helping support the mission and growth of the AAW.

The growth and maturation of the AAW has been an ongoing journey, and I would be honored to be more directly a part of it and to give something back to the organization that has meant so much to me in my avocation. I hope that I can help support the Association as it strives to meet the future needs of its members and chapters.

Thank you for your consideration and support.

### Molly Goodfellow Winton, Washington



"I volunteer!" I used to roll my eyes at my mother when I'd hear this phrase leave her lips over and over, as I grew up. Seems as if I've caught the bug though, hence my candidacy for

the board. I have a history of community service through Seattle Chapter-AAW; Rotary; The Neutral Zone (after-hours program for at-risk youth); Washington State Gourd Society; Edmonds Art Studio Tour Steering Committee; and many other volunteer opportunities. For these

organizations, I served on their boards and was president for Seattle AAW and Rotary. Prior to my involvement with woodturning, I worked within the vocational rehabilitation field for eighteen years, the last few of them running my own business.

I've enjoyed the services and benefits of the AAW since joining in 1998 as a fledgling, neophyte turner. Had I not been connected with the AAW, both locally and nationally, I would not have accomplished what I have as an artist, teacher, and demonstrator within this craft. I have evolved from that fledgling to an artist and teacher, which has allowed me to travel to woodturning clubs and symposia throughout the U.S., Canada, and even New Zealand! I sincerely want to

facilitate an equally enriching environment to others.

The purpose of the AAW, as I see it, is to support its members through education, advancement of the craft, social and business opportunities, and community education and promotion. Existing AAW committees and services currently address these topics, and I will support them with every effort. My goals include exploration of unique methods to provide the aforementioned services in user-friendly ways, and growing our membership to include a diverse demographic. I see my role as an advocate for the general membership, whether they be a hobbyist, artisan, artist, professional, or a fledgling woodturner. I volunteer! Blame my mom.

### Rick Baker, Pennsylvania



Why do I want to volunteer all the time necessary to serve on AAW's board? Quite simply, I want to give back to the organization that has given so much to me.

Since age ten, when I experienced seeing a baseball bat being made from a wood blank in the woodshop that my grandfather managed, I have been fascinated by woodturning. It wasn't until many years later I read in a magazine about AAW's Symposium in Tacoma that

I had an opportunity to experience what woodturning is really about. I went, which resulted in my getting a new lathe. I attended almost every AAW Symposium and many regional symposia since.

I bring the experience of being a founding member and on the boards of several associations. I served as president on one and currently serve as secretary of the Mid Atlantic Woodturners chapter. I started an audio-visual and meeting-services company and headed it for forty-two years before I retired. We were involved in production of all types of meetings; a large percentage were for associations similar to AAW. Every meeting required a team effort,

not unlike being part of the board's planning and developing this Association. I am a good listener and observer to learn what works and what needs improvement.

I spent the last year-and-a-half designing and refining the first AAW camera boom to make the woodturning symposium experience more interesting and instructive for the attendees; two were used in Atlanta 2016.

I feel that my experience serving on several boards and in meeting and audio-visual business management will help me assist AAW in achieving its vision for growth and to better enrich the membership experience. I am very willing to sacrifice woodturning time to serve the Association. ■

## Call for Entries: 2017 POP Exhibition

### *The Sphere — Second Round*



**Tucker Garrison**, *Giant Pod of Connestee*, 2008, Cherry, acrylic paint



**Marc Ricourt**, *Untitled*, 2008, Bleached maple



**Jay Heryet**, *You Can't Be Spherious* (Tea Service Series), 2008, Field maple, acrylic paint



**Hans Weissflog**, *Untitled*, 2008, Cocobolo

What goes around comes around, as they say, and the theme for the 2017 Professional Outreach Program (POP) exhibition is *The Sphere – Second Round*, which was also the very successful 2008 theme. There are a limited number of juried spots available for this annual international exhibition and auction.

Entries will be accepted online from November 1, 2016, to January 1, 2017. All applicants will receive email notification by January 15, 2017. The application fee is \$30 for up to three entries. Works will be selected based on aesthetic appeal, originality, execution, and relationship to theme.

POP exhibitions feature small-scale works, and for 2017 the finished piece, as displayed, must fit into a 6" (15cm) cube. Please review the full guidelines on the AAW Calls for Entry webpage before planning your project. Visit [tiny.cc/Calls](http://tiny.cc/Calls).

Questions? Contact Tib Shaw at [tib@woodturner.org](mailto:tib@woodturner.org).

*Photos by AAW/Tib Shaw.*

## In Memoriam

### Neil Scobie—a Friend for Us All

When my profile of Neil Scobie was published in the April 2016 issue of *American Woodturner* (vol 31, no 2, page 46), only a few of the readers knew that Neil was suffering from terminal cancer. Neil had asked me not to mention it because he did not want to be defined as a man in decline, and I respected that as much as everything else I respected about him. However, if you read between the lines you will find what I could not openly write. We also knew that any announcement would mean hundreds of calls, and he

did not want his family to be disturbed any more than could be avoided. As always, Neil thought of others first.

Neil Scobie passed away May 3, 2016. His last few months were spent in the warm embrace of his family's love and the teams of close friends who visited their home, cutting the grass, finishing commissions, or just sitting quietly and talking.

Neil approached his passing with as much dignity as he did everything else in his life, selflessly and with courage. Family and friends have already gathered



Neil and Liz Scobie

Photo: Anna Scobie

to farewell this good man, but he will live on in our memories as a strong example of how to live a good life. Those who knew Neil will never have another friend like him and he will be sorely missed.

—Terry Martin



## Call for Entries: 2017 Member Exhibition— *Waves of Grain*

*Waves of Grain* is the theme for the 2017 AAW Member Exhibition, which will premiere at the AAW Symposium in Kansas City, Missouri. Although the title theme was selected to honor the rich agricultural history of the region, it was also chosen to provide a catalyst for other interpretations. From ancient grain goddesses to the amber waves of wood grain, it is a theme rich in possibilities.

All AAW members are eligible and encouraged to apply: We are looking for both traditional and innovative work. Entries will be evaluated in the following areas: overall appeal, technical execution, originality, and relationship to theme. Each piece will be considered individually and by how well it fits with the overall composition of the exhibition.

Two artist awards will be given during the 2017 AAW International Symposium: a Masters' Choice Award of \$300 and a People's Choice Award of \$200.

### Entry Dates and Fees

Entries will be accepted online from November 1, 2016, through February 1, 2017. All applicants will receive email notification by March 31, 2017. The entry fee of \$30 covers up to three submissions.

### Guidelines

Work must be made at least in part on the lathe and have been created between February 1, 2015, and January 31, 2017. A statement (100 words maximum) of how your piece fits the exhibition theme is required. Please review the full guidelines at [tiny.cc/Calls](http://tiny.cc/Calls) before planning your project.

Questions? Email [tib@woodturner.org](mailto:tib@woodturner.org). ■



**Bill Luce**, *Strata Series #3*, 2007, Douglas fir, 9¼" x 11½" x 11¾" (23cm x 29cm x 30cm)

## 2016 Best Chapter Newsletter/Best Chapter Website Contest Results

Congratulations to the following AAW local chapters for winning the newsletter contest:

- **First Place:** Montgomery County Woodturners, [montgomerycountywoodturners.org](http://montgomerycountywoodturners.org), Bill Long, Editor
- **Second Place:** San Diego Woodturners, [sdwt.org](http://sdwt.org), Dave John, Editor
- **Third Place:** Central New York Woodturners, [cnywoodturners.org](http://cnywoodturners.org), Barbara Raymond-LaPrease, Editor



Congratulations to the following AAW local chapters for winning the website contest:

- **First Place:** Tidewater Turners of Virginia, [tidewaterturners.net](http://tidewaterturners.net), Steve Wilson, Webmaster
- **Second Place:** San Diego Woodturners, [sdwt.org](http://sdwt.org), David Heiser, Webmaster
- **Third Place:** Valley Woodturners, [valleywoodturners.com](http://valleywoodturners.com), George Jager, Webmaster



Links to the websites of past and present winners are posted at [tiny.cc/chapterwinners](http://tiny.cc/chapterwinners). ■

## POP Artist Showcase Opportunity

Deadline for Applications: December 1

Each year the Professional Outreach Program (POP) showcases two wood artists at the AAW's Annual International Symposium. They are either experienced artists who have

### 2016 POP Showcase Artists, Atlanta Symposium



Helga Winter



Jérôme Blanc

made significant contributions to the woodturning field but have not received appropriate recognition or emerging artists who have the potential for making significant contributions to the field. The two selected artists each give two demonstrations and receive free Symposium registration plus a small honorarium. Their work is displayed prominently in the Instant Gallery. The 2016 artists were Helga Winter and Jérôme Blanc.

Artist applications are invited for the 2017 AAW symposium in Kansas City, Missouri. Applications will be juried by the POP committee. The deadline is December 1, 2016, and the application can be found at [tiny.cc/Calls](http://tiny.cc/Calls).

## Introducing AAW VideoSource A VISION 2020 Initiative



### VISION 2020

VISION 2020 is AAW's new strategic plan to build upon the organization's position as the

go-to source for woodturning information. Based on solid research, the plan's programs are inclusive, with the intent to fulfill the needs of hobbyists, professionals, collectors, demonstrators, and vendors. Between now and the year 2020, the AAW will roll out several new initiatives and key enhancements to its portfolio of member benefits.

### AAW VideoSource

One such enhancement is the new AAW VideoSource, which makes searching for online woodturning videos a snap. More than ever before, woodturners are relying on the Internet for instructional materials—especially videos. But the number of videos available can be overwhelming, and their quality and attention to safety, lacking. If you are tired of spending hours sifting through YouTube videos that don't meet your needs, AAW VideoSource can help.

- Searchable list of public woodturning videos vetted for content, quality, and good safety practices
- Custom sorting of search results with direct links to the videos
- Ability for you to recommend videos to help grow the database

### How it works

You can access AAW VideoSource via AAW's main website, [woodturner.org](http://woodturner.org), under the "Videos" tab.

Searching for videos on a specific topic only requires a few seconds and three mouse clicks—one to select a category, a second to refine the category, and a third to produce a list of video links meeting your search criteria. Sort the results by title, author, duration, and date added to the list. You also have the option to select only videos for beginners.

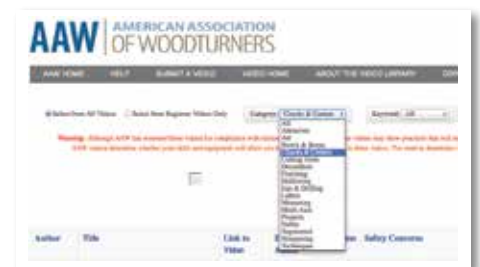
We will continue to grow the list with new videos as they are identified, and you can help. Once you are on AAW VideoSource, click "Submit a Video" to recommend your favorites for inclusion.

If you would like detailed instructions on how to use AAW VideoSource, please view the helpful demonstration

video available under the "Help" tab on the VideoSource page.

### Acknowledgements

AAW VideoSource will simplify your process of finding woodturning videos with trusted quality. This new AAW service would not be possible without the generosity and patience of Jerry Hall, an AAW member who deserves the credit for the original concept. AAW member Dave Mueller and current board member Kathleen Duncan have volunteered their time and technical expertise to make this service a reality for AAW members.



Author	Title	Link to Video	Date Added	Duration	Safety Concerns
Alan Brumby	Easy Wood Planes for Woodturning	<a href="#">Link to Video</a>	04/19/2016	00:08:58	
Mike Price	Shaping Wood on a Lathe	<a href="#">Link to Video</a>	05/19/2016	01:28:31	
Bruce Rapp	Jaws & Chucks	<a href="#">Link to Video</a>	06/23/2016	00:11:01	
Lyle Brumby	Limitations of Chucks for Woodturning	<a href="#">Link to Video</a>	06/19/2016	00:02:25	



## Turners Without Borders Visits Kathmandu

AAW's Turners Without Borders participated in this year's World Wood Day celebrations, continuing a tradition of collaboration that started in 2013 with the International Wood Culture Society (IWCS). This year's celebrations took place in March in Kathmandu, Nepal, and the woodturning contingent was truly international, comprising Eli Avisera from Israel, Joss Naigeon from France, Hassan El Farissi from Morocco, Andy Chen from Texas, and Bajra Bahadur Shilpakar from Nepal. Two other AAW members, Jacques Vesery and Ken Ledeen, participated as carvers/sculptors in a collaborative project.

While in Nepal, we demonstrated turning on a human-powered lathe, inspired by one used by Canadian teacher Scotty Lewis, who had designed and built his lathe for a project in the Dominican Republic (see *AW* vol 30, no 4, page 36). It seemed practical for us to have a lathe that did not require electricity because the electric supply was

still not reliable in Nepal nearly a year after the area was devastated by earthquakes. We put together the critical lathe parts, such as the headstock, tailstock, toolrest, and drive train, here at home and built the chassis using local construction-grade wood. The lathe looked so interesting that people were vying to get on it even before the last two screws were in place.

One of the most intriguing demonstrations was on a very minimalist hand-powered lathe by the young Moroccan, Hassan El Farissi, who turns with just one tool—a skew chisel held in his left hand and guided with his right foot. The day's events included many activities: wood carving, wooden musical instrument performances accompanied by ethnic dancing, folk arts such as puppet shows, a furniture-building competition, a children's program, tree planting, and an academic symposium. Woodturning had the smallest representation, but we drew huge crowds.



There were about 250 international participants, representing 105 countries, in addition to many others from the host country. Here, all participants enjoyed each other's company, regardless of national and political backgrounds. That is the spirit of the World Wood Day celebrations. ■

*For more on IWCS, visit [IWCS.com](http://IWCS.com), [woodculture.org](http://woodculture.org), and [worldwoodday.org](http://worldwoodday.org). For more on AAW's TWB program, visit [tiny.cc/TWB](http://tiny.cc/TWB).*

*We deeply appreciate Robust Woodturning Tools and Chucks Plus for donating parts and lathe accessories for our use in Nepal.*

—Andy Chen



TWB representative Andy Chen demonstrates woodturning on a human-powered lathe to a fully engaged audience.

Photo: Courtesy of IWCS



Joss Naigeon (left) and Eli Avisera (right) demonstrate woodturning during this year's World Wood Day celebrations in Kathmandu, Nepal.

Photo: Courtesy of IWCS

## CCW Participates in Rise and Shine

Twice a month during the school year, a group of students from Monomoy High School in Harwich, Massachusetts, travels to the Cultural Center of Cape Cod in Yarmouth to participate in the Center's Rise and Shine Program. The Program works to engage at-risk students in learning by exposing them to various art forms, including painting, photography, drumming, writing, and sculpture.

Cape Cod Woodturners (CCW) has collaborated with the Center as a new addition to its Program. Eight CCW members worked as one-on-one mentors with the students to create a supportive setting and a positive interaction with an adult—in addition to sharing the joys of turning. The students made cherry honey dippers during the first session and small bowls or ice cream scoops during the second session. If the smiles were any indication of our success, we were indeed successful. The students were also offered membership in CCW, with an invitation for on-going mentorship by club members. ■

*For more, visit [capecodturners.org](http://capecodturners.org).*

—Robin McIntyre



CCW member Steve Patzman works with a student in the Rise and Shine Program at the Cultural Center of Cape Cod.

## MAW Continues Outreach

With close to 100 members, the Michigan Association of Woodturners (MAW) has been a star AAW chapter for seven years. One of the greatest sources of pride within our organization is our active involvement in several charitable events.

Two thousand fifteen marked the fourth year we donated tops to Children's Hospital in Detroit through what we call our Tops for Tots program. Members make tops all year at home and at our club-sponsored "Top-a-Thons"—days when we meet and make tops for the entire day. This year's goal of 4,000 tops was exceeded when we delivered 5,673 tops to the hospital. We are particularly proud of this outreach, as nurses carry the tops in their pockets to distribute to kids, particularly those who come in through the emergency room.

For the past two years, MAW members have also donated their efforts and art to Empty Bowls. We also donate bowls for auction or purchase as a fundraiser for the Food Bank of Eastern Michigan. Last year, we donated forty-seven bowls, and we are committed to increasing that number this year. Yet another recipient of our woodturning outreach was the Play Place for Autistic Children.



Members of the Michigan Association of Woodturners collaborated to make this model of a vintage World War I machine gun. The 100 bullet pens on the belt were later donated to military personnel.

Though we have participated in collaborative projects before, last year we added another dimension by including a charitable donation. MAW members created a wooden model of a belt-fed, World War I Browning machine gun for our chapter collaborative at the Pittsburgh Symposium. The belt held 100 bullet pens, which were subsequently donated to servicemen and women.

The members of the Michigan Association of Woodturners enjoy woodworking and sharing our love of turning with others. But our biggest source of pride is our ongoing commitment to donating our talents, time, and art to improve the lives of others. ■

*For more, visit [michiganwoodturner.org](http://michiganwoodturner.org).*

—Tom Mogford, President MAW

## TAW Donates TVs to Arrowmont

The Arrowmont School of Arts and Crafts holds special meaning for many woodturners since it was where several turners began forming the AAW in 1985. As one of the first AAW chapters, the Tennessee

Association of Woodturners (TAW) has always supported the woodturning programs at Arrowmont. This year, when TAW members learned of Arrowmont's need for new video monitors in its woodturning shop, we decided to help by donating the needed equipment. ■



—Mike Zinser

TAW members present new video monitors to Arrowmont's shop supervisor Heather Ashworth for use in the school's woodturning shop.



## Book Review: *Wood! Identifying and Using Hundreds of Woods Worldwide*, by Eric Meier, The Wood Database, 2015, 266 pages

Anyone who has searched the web to identify a piece of wood or learn more about its working properties has probably encountered The Wood Database ([wood-database.com](http://wood-database.com)). Initiated in 2007 by Eric Meier, the website represents more than 500 species. Now, Meier delivers accounts of 350 species in a book worthy of a spot in any woodturner's library. While there are already books of this general sort on the market, Meier brings a woodturner's perspective to this project, which in part defines the book's niche.

Printed in full color, each species' summary offers images of finished and unfinished flat grain and a magnified close-up of endgrain. The variety of grain and color of any wood species keeps us all addicted to woodworking, so a single photo offers a general reference. But a

species' endgrain varies far less in appearance than its flat-sawn surface, and it is these images that provide timber "finger prints," where the arrangement of pores, growth rings, and other macroscopic features yields a species-defining signature.

Six initial chapters offer a fundamental course, explaining features that distinguish hardwood and softwood, how wood responds to moisture, an insightful discussion of finishes, and a well-organized approach to identifying wood samples based on a suite of physical and chemical properties. Meier has taken the technically challenging elements of a tome like the USDA's *Encyclopedia of Wood* and distilled the information to its essentials, serving it up in a readable and understandable fashion. Though representing a fraction of the diversity of woody species on the

planet, Meier has populated this book based on the criteria of availability of the timber and popularity of the original website accounts.

There are many compelling reasons to first identify that chunk of mystery wood before chucking it on the lathe. How will you acquire more if your sample is unnamed? Knowing the wood's physical properties also helps match timber to the uses for which it is best suited. Characteristics like rot resistance, hardness, gluing properties, workability, and shrinkage will assure good wood selection and pairing timbers (such as for segmented turning) that are likely to respond to seasonal movement in a similar fashion. ■

—Don McIvor



## DVD Review: *Mastering Woodturning with Glenn Lucas: Dublin Viking Bowl*, 75 minutes

Production turner, teacher, and demonstrator Glenn Lucas presents *Dublin Viking Bowl* as his fifth in a series of instructional videos. The project is based on a recently discovered eleventh-century bowl, now in the collection of The National Museum of Ireland.

The eponymous subject of this video is a beguiling vessel with a slightly enclosed and beaded rim. As testament to the perfection of its form, similar vessels have co-evolved in wood or ceramics in many cultures around the world. About 6" (15cm) in diameter, the completed project offers a perfect vessel for corraling nuts, popcorn, or candy. It can also be scaled to a variety of sizes, but more importantly, the techniques learned through the project are widely applicable to many facegrain turning projects.

The DVD is divided into logical chapters, including an introduction,

sharpening, turning the exterior, sanding, turning and finishing the interior, and removing the foot. Captured under each of these headings are a wealth of tips and clear instruction covering stance, grip, lathe speed, and tool presentation. Production values are excellent, with good sound and camera work fully supporting Lucas's instruction. Lucas comes across as highly competent, thoughtful, dryly humorous, and someone with whom anyone would be delighted to spend a day at the lathe.

It seems that instructional videos are increasingly a means for promoting a signature tool line, and *Dublin Viking Bowl* hews to the trend. The sharpening chapter includes thirteen minutes of instruction on using the Tormek grinder to attain the appropriate grinds on the long series of Lucas's signature gouges, scrapers, and skew employed in this project. This

may leave beginning-to-intermediate turners pondering a serious outlay for a new suite of tools, or wondering if their existing tools and techniques can be adapted to the task at hand. Lucas uses the versatile "Irish grind" on his bowl gouges, so those familiar with it will be able to jump right into the project. Scrapers with a standard grind (rather than negative-rake) will suffice. For those interested in applying Lucas's grinds to their existing tools, Lucas offers grinder set-up guidelines for Tormek, Oneway, and Sorby grinders for about \$5 from his website.

Glenn Lucas's videos are available from Woodworker's Emporium, Craft Supplies USA, or [glennlucaswoodturning.com](http://glennlucaswoodturning.com). ■

—Don McIvor



# Tips

## Banjo fix

After extensive use, the banjo on my lathe wouldn't slide easily and occasionally would just plain stick. I waxed the bedways and de-burred the banjo to no avail. I solved the problem by lubricating the eccentric shaft on the banjo's tensioning bar.

Tensioning is only one function of the banjo's parts. The banjo is also able to move in all directions because of how the multiple parts work together. A T-nut slides under the bedways, allowing left-to-right movement, and a T-bolt slides along the eccentric tensioning bar, allowing forward and backward movement, as well as rotation. Without the T-bolt sliding smoothly along the shaft, movement of the banjo is restricted. Cleaning and lubricating the internal tensioning bar worked for me.

—Jim Meizelis, Illinois



## Custom sphere sander

I have tried many ways to sand spheres, but the fastest and easiest is power sanding. This idea was inspired by a Sören Berger video in which Sören uses a PVC pipe end cap to sand a sphere. I thought having the sander rotate, too, would speed up the process. Here's how I adapted a standard 3" (8cm) medium-density sanding-disc holder, or mandrel, to work better on spheres.

To make a hollow shape in the disc holder that would conform to a sphere, I mounted the holder in a drill chuck in my lathe's headstock and hollowed the inside

just shy of the hard-plastic backing. I glued in narrow hook-and-loop strips to accept hook-and-loop sanding discs (*Photo a*). So the sanding disc would conform to the concave shape, I had to cut it almost to the center in thirds, then cut about half-way in the middle of each tab. This allowed the disc to fold onto itself and avoid creases.

This custom sander can be used on spheres held between cup centers or with a vacuum chuck (*Photo b*). Use it with the lathe and drill at a slow speed to avoid heat build-up.

—Dan Burleson, Missouri



## Finding accurate segment lengths

A popular equation used to determine segment length for closed segmented bowls is  $(\pi \times d, \text{ or } 3.14 \times \text{diameter})$  divided by the number of segments. But this method is not truly accurate and only provides a ballpark length. Here is a chart that will help you derive accurate segment length by multiplying the ring diameter by a simple length factor.

I have included several common ring configurations in the chart, but you can derive the length factor for any number of segments with this formula:  $\tan(180/\text{number of segments})$ . This is easy to do with a calculator that includes trigonometric functions. Simply calculate 180 divided by the number of segments (arriving at an angle) and hit the "tan" button.

As an example from the chart, for a segment ring with twelve segments and a proposed diameter of 6" (15cm), the segment length would be 1.6" (41mm).

—Jerry Bennett, Texas

Number of segments	Formula: (length factor $\times$ ring dia.)
6	.5774 $\times$ dia.
8	.4142 $\times$ dia.
12	.2679 $\times$ dia.
16	.1989 $\times$ dia.
18	.1763 $\times$ dia.
20	.1583 $\times$ dia.
24	.1317 $\times$ dia.
30	.1051 $\times$ dia.
32	.0985 $\times$ dia.
36	.0875 $\times$ dia.
40	.0787 $\times$ dia.
48	.0655 $\times$ dia.

## Share your turning ideas!

If we publish your tip, we'll pay you \$35. Email your tips along with relevant photos or illustrations to [editor@woodturner.org](mailto:editor@woodturner.org).

—Joshua Friend, Editor



# Calendar of Events

## October issue deadline: August 15

Send information to [editor@woodturner.org](mailto:editor@woodturner.org). For a more complete listing, see the AAW's *Woodturning Calendar* online at [tiny.cc/AAWCalendar](http://tiny.cc/AAWCalendar).

### New Zealand

September 29–October 2, 2016, Woodturning New Zealand International Symposium, Kings College, Otahuhu, Auckland. Demonstrators to include John Beaver, Troy Grimwood, Chris Hooton, Steven Kennard, Guilio Marcolongo, Hugh Mill, Chris Pytlik, Pat and Karen Miller, Brendon Stemp, Curt Theobald, John Van Der Kolk, John Wessels, and Andi Wolfe. For more, visit [sawg.org.nz](http://sawg.org.nz) or email [events@sawg.org.nz](mailto:events@sawg.org.nz).

### Colorado

September 16–18, 2016, Rocky Mountain Woodturning Symposium, The Ranch Larimer County Fairgrounds, Loveland. Forty-eight demonstrations. Presenters to include Nick Cook, Michael Andersen, Ron Ainge, Les Brandt, David Ellsworth, Jay Shepard, Larry Fox, Milo Scott, and Keith Gotschall. Large vendor tradeshow, art auction, hands-on rotations, and instant gallery. For more, visit [rmwoodturningsymposium.com](http://rmwoodturningsymposium.com).

September 22–25, 2016, 14<sup>th</sup> Biennial Ornamental Turners International Symposium, DoubleTree by Hilton Denver-Stapleton North, Denver. Ornamental turning topics to include rose engine, fixed tool, and guilloché. Demonstrations on modern and antique OT machines. Demonstrators to include Jean-Claude Charpignon, Fred Armbruster, Bill Ooms, David Lindow, Phil Poirier, David Wood-Heath, Peter Gerstal, and Jon Magill. For more, contact Brad Davis, [braddavis@netins.net](mailto:braddavis@netins.net) or visit [ornamentaltturners.org](http://ornamentaltturners.org).

### Georgia

September 15–17, 2017, Turning Southern Style Symposium, hosted by the Georgia Association of Woodturners, Dalton Convention Center, Dalton. Event to include top-notch demonstrators, a large group of vendors, and a great facility. For more, visit [gawoodturner.org](http://gawoodturner.org).

October 1–31, 2016, Lowcountry Turners Group Exhibit, Goodyear Cottage, Jekyll

Island Arts Association, Jekyll Island.

Members of Lowcountry Turners will exhibit forty of their best pieces, including a club collaborative. All works are for sale. For more, visit [lowcountryturners.com](http://lowcountryturners.com).

### Maine

September 17, 2016, Maine Wood Carvers Show, Buker Community Center, Augusta. Includes a carving competition, vendor booths, tool and wood sales, and raffles. For more, contact Justina Hatch at [justina\\_marie\\_1960@yahoo.com](mailto:justina_marie_1960@yahoo.com).

### Massachusetts

October 27–30, 2016, 5<sup>th</sup> Segmenting Symposium, Boston Marriott Quincy, Quincy. Demonstrators to include John Beaver, Bob Benke, Jerry Bennett, Bruce Berger, Andy Chen, Robin Costelle, Jim Rodgers, Malcolm Tibbetts, and others. Instant gallery, banquet, raffle, turning exchange, vendor area, and activities for partners. For more, visit [segmentedwoodturners.org](http://segmentedwoodturners.org).

### Minnesota

Ongoing exhibit: *Touch This!* At the AAW's Gallery of Wood Art, Saint Paul. Featuring fascinating facts about wood and woodturning, as well as pieces you can touch. For more, visit [galleryofwoodart.org](http://galleryofwoodart.org).

### Montana

October 8, 9, 2016, Yellowstone Woodturners Symposium, Roaring 20's Auto Club, Billings. Featured demonstrator/instructor will be Keith Gotschall, demonstrating off-center platters, hollow forms, lidded boxes, and winged boxes. For more, visit [yellowstoneturners.org](http://yellowstoneturners.org) or call Ron Velin at 406-679-0902.

### North Carolina

July 16, 2016–January 16, 2017, *Shaping the Vessel: Mascoll + Samuel*, The Harvey B. Gantt Center for African-American Arts + Culture, Charlotte. An exhibition of turned work by John Mascoll and Avelino Samuel. For more, visit [ganttcenter.org](http://ganttcenter.org).

### Pennsylvania

September 24, 25, 2016, Mid Atlantic Woodturning Symposium, Lancaster Marriott/Convention Center, Lancaster. Demonstrations by Mike Mahoney, Al Stirt, Binh Pho, Cindy Drozda, Eric Lofstrom, Mark Sfirri, Dennis Fuge, and Kurt Hertzog. Vendor tradeshow, banquet, auction, and instant gallery. Visit [mawts.com](http://mawts.com). Vendors contact [Lsherman120@gmail.com](mailto:Lsherman120@gmail.com) or call 717-478-1845.

### Tennessee

January 27, 28, 2017, Tennessee Association of Woodturners' 29<sup>th</sup> Annual Woodturning Symposium, Marriott Hotel, Franklin. Demonstrators to include Nick Agar, Cynthia Carden Gibson, Stephen Hatcher, and Frank Penta. Tradeshow, instant gallery, banquet, and auction. For more, visit [tnwoodturners.org](http://tnwoodturners.org). For vendor booth information, contact [voldad18@comcast.net](mailto:voldad18@comcast.net).

### Texas

August 26–28, 2016, 25<sup>th</sup> Anniversary of the Southwest Association of Turners (SWAT) Symposium, Waco Convention Center, Waco. Demonstrators to include Cindy Drozda, Mike Mahoney, Clay Foster, Stuart Batty, Mary Lacer, John Beaver, John Jordan, and Dick Sing. Also regional demonstrators, vendors, art gallery, hands-on area, lunches, banquet, and raffles. For more, visit [swaturners.org](http://swaturners.org).

### Virginia

September 6–October 16, 2016, Member Exhibition of the Tidewater Turners of Virginia, d'Art Center, Norfolk Arts District, Norfolk. For more, email [webmaster@tidewaterturners.net](mailto:webmaster@tidewaterturners.net).

November 5, 6, 2016, Virginia Woodturning Symposium, presented by the Virginia Woodturners (a group of ten Virginia clubs), EXPOland, Fishersville. Featuring international and regional demonstrators. For more, visit [virginiawoodturners.com](http://virginiawoodturners.com).

# GRACEFUL AND VERSATILE STANDS

Chris Grace

I like turning a variety of items because I enjoy the challenge of designing things and working out how to make them. I also like to use interesting timber that has a story attached to it when possible. In this case, I used elm that I had acquired from a retiring cabinetmaker who never got around to using it.

Some of the elm boards were the perfect size for this relatively straightforward stand. However, the project incorporates both faceplate turning, spindle work, and a means of holding the top and base to turn away any evidence of chucking without wasting wood. These are good skills to master that can be applied to many other projects.

You can alter the dimensions and design of the stand to suit the wood you have available and the purpose you will

assign to the finished item. They can be made as drink, plant, or candle stands—a set of three of different sizes works well with candles, for instance. If you use the stands for candles, make sure the candles are secure in the stand. I designed mine to make the most of the 8"- (20cm-) wide by 3"- (8cm-) thick elm board that I wanted to use (*Figure 1*).

## Preparing and marking the blanks

I marked out the wood to ensure I could get all the pieces for two stands from my plank and cut the pieces to size on my bandsaw. With thick boards like this one, take care when sawing, holding



them flat to the table, because if they are cupped, they can rock and catch on the bandsaw blade.

To make the initial turning quicker, easier, and safer, I cut the corners off the large square blanks (*Photo 1*), having first marked the center and the desired diameter with a compass. I find the center of larger blanks with my shopmade center-finder, a large piece of transparent polycarbonate with a hole in the middle and concentric rings.

I find the center of smaller square-ish sections with the center-finder from my combination set, marking from each corner (*Photo 2*) in case the workpiece is not exactly square. If your marks form a small square or rectangle in the middle, visually mark the center of that and carefully center punch so the endgrain does not deflect your live center when mounting the piece.

## Dimensions

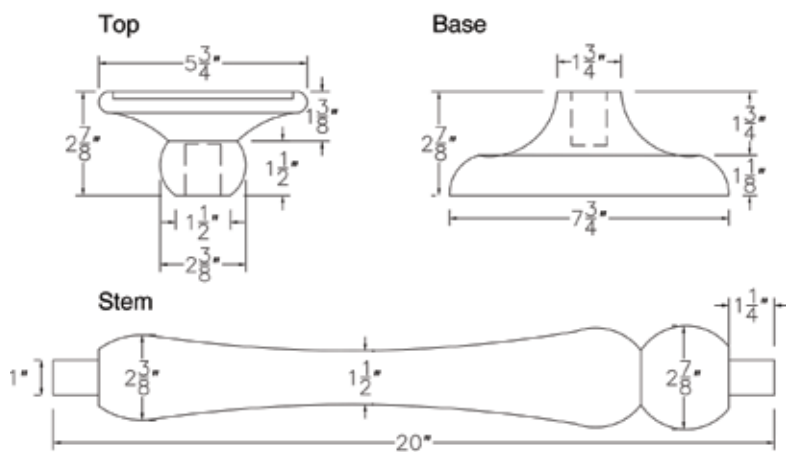


Figure 1.



## Creating the top and bottom

I chose to make the top first. The same techniques are used to create the bottom.

To maximize the use of the elm, I affixed a hardwood glueblock and turned a chucking spigot on that. I pressed the blank against a cork faceplate with my revolving center and cut a tenon with dovetailed sides using a shopmade scraper ground to the angle of my chuck jaws. You should form a tenon that will fit your jaws.

With the blank held in a chuck, I turned the piece round using a bowl gouge, cutting in toward the middle from both sides to minimize tearout at the edges (*Photo 3*). I then skimmed the face of the blank, from the middle to the edge. I also trued up about 1" (25mm) of the top face of the blank by the chuck.

Using a 1" Forstner bit, drill a 1½"-(38mm-) deep hole for attaching the top/base to the stem later.

It is helpful to mark key transitions with a plunge cut from a parting tool, as it marks both position and depth. For deep parting tool cuts, always widen the cut with a second pass for clearance, especially on the face of a turning. A half-width second cut is sufficient when parting into the side of the turning. Part in just to one side of your marked line to allow a little room for cleanup or to shape the curves. In this

case, I made a shallow plunge cut in the face of the blank to size the bead at the underside of the top (*Photo 4*), and in the side where the curve meets the top.

The bulk of the waste can be removed quickly with a medium-sized bowl

gouge to form a spigot that will become the bead. Wood can also be removed to start shaping the ogee under the top (*Photo 5*). Once I had created sufficient access space, I marked the high point for the bead ►

## Prepare & mark blanks



**1** Cut the top and base blanks to size on a bandsaw and remove the corners to speed turning. Take extra care if the blank is cupped or warped.



**2** On spindle blanks, mark the center line from all four corners, then eyeball the middle and center punch.

## Rough-turn the top



**3** Using a bowl gouge, turn the top round, cutting in from both sides to avoid tearout. Then true up both faces.



**4** Drill a hole, or mortise, that will later accept the tenon at the top end of the stem. Mark, then plunge in with a small parting tool to indicate both the position and, where possible, the depth of key transitions.

## Detail the top



**5** Using a bowl gouge, turn a spigot from which you will create a bead. Then start the ogee shape on the underside of the top.



**6** Mark the center of the bead, then shape the bead with a spindle gouge. Then further refine the ogee to the left.



**7** Using the lower wing of a bowl gouge presented on its side, create the bead, or roundover, at the top's largest diameter.

and started cutting it using an acutely ground ½" (13mm) spindle gouge, taking a little material off with each cut until I arrived at the desired shape (*Photo 6*). I use a “fingernail” shaped gouge with an acute bevel, as it produces a clean cut and enables better access between beads/features.

With the bead cut, I refined the ogee shape on the underside of the top, finishing at the thickness marked by the parting tool. Once happy with the overall shape, I rounded over the edge on both sides to form the top bead. Because this is a sidegrain blank, with the grain running perpendicular to

the lathe bed, I used a bowl gouge and a pull cut, with the grain, to shape this feature. I finished the shape with the bottom wing of the gouge on its side, achieving a clean, skewed scraping cut (*Photo 7*).

It’s best to sand through the grits at this stage, as you will have ready access

## Reverse-mount top, turn recess



**8** Make a chucking spigot to reverse-mount and turn the top and base. Fine-tune the spigot with abrasives for a snug fit.



**9** Reverse-mount the top on the spigot drive, and bring up the tailstock for support. Part off the original glueblock.



**10** Part in to depth, then shape the recess with a gouge and scraper. Check for flatness with a small square.

## Form the stem’s bottom bead



**11** Mark all transitions and rough to just over finished diameter. A partially turned bottom tenon acts as a sizing gauge when turning the bead.



**12** Part in to mark the position and depth of transitions. Do not plunge to full depth between adjacent beads.



**13** Turn the bottom bead and half bead to its left a little at a time until you are happy with the shape. Use a spindle gouge, working downhill from the bead’s center.

## Complete the stem



**14** Mark your toolrest to indicate the center of the narrowest point on the stem, as a mark on the wood would be turned away. Rough down from both sides.



**15** Turn the top tenon area down to the diameter of the upper half bead’s edge. Then form the half bead, using the partially turned tenon as a depth gauge.



**16** Turn the tenons to their final diameter for a snug fit in the drilled mortises.



to the whole of this side of the turning. Use good quality abrasives, discarding them as they become worn. Start at the coarsest grit necessary to remove tool marks quickly. Never skip a grit. Use 80, 120, 180, 240, 320, and 400 as appropriate on projects like this with dust extraction held as close as possible to the work. I then seal with cellulose sanding sealer, flooding it on and quickly wiping off the excess, before de-nibbing with 600 grit.

I reverse chucked the top on a shop-made parallel spigot (*Photo 8*), which allows access to the top surface of the stand. I set my digital calipers to zero in the hole drilled in the top, and used them to accurately gauge my cuts when forming the chucking spigot, stopping just before reaching zero for a test fit. If the fit is too tight, adjust it with abrasives. With the spigot gripped in my chuck and the top mounted on the spigot with tailstock support, I parted off the original chucking dovetail (*Photo 9*). The chucking block can be re-used a couple of times on other projects if you part it off carefully.

I finished the top by plunging in with a parting tool to create the edge of the top recess, then I removed the bulk of the waste to that depth with a bowl gouge. I checked that the recessed area was level with a small square (*Photo 10*) and used a large square scraper to refine the surface. Sand and seal as above.

The base is made using the same steps as the top but to a slightly different shape and with a shallow concave on the bottom (*see Figure 1*).

## Creating the stem

Due to the “character” of the elm I was using, I left the stem blanks a little longer than required with the intention of choosing the exact position of the stem once the grain had been revealed following initial roughing.

I mounted the stem between centers and roughed it down to a cylinder with

my spindle-roughing gouge. I nibbled away about an inch at a time towards the ends as a precaution in case any wood broke off near a crack.

Once the stem blank was round, I marked out the portion I would use for the stem, together with key transitions. I turned the key elements to their appropriate diameters, with the exception of the tenons. I initially turned these to the diameter of the edge of the bead detail to act as a guide while forming the bead— $1\frac{3}{4}$ " (4cm) for the bottom (*Photo 11*). I started turning at the tailstock end, where less wood needs to be removed on this design, and worked my way to the top. To create the bead detail, I parted in a short way at the transition (*Photo 12*) and then started to create a “V” between the beads for clearance. Once there was sufficient space to maneuver, I created the bottom bead and half bead using my  $\frac{1}{2}$ " spindle gouge as before (*Photo 13*).

I moved my long toolrest so I could turn the more slender middle section in one go and marked the center point on my toolrest for reference, as the mark on the wood would be turned away (*Photo 14*). I turned this to a smooth surface using only my spindle-roughing gouge, angling it to make a skew-like cut as I got closer to the final shape and diameter.

I started the top tenon, sizing it temporarily to the diameter of the side of the half bead at the top of the stem— $1\frac{1}{2}$ ", or 38mm (*Photo 15*). Then I formed the top half bead.

Finally, I cut the tenons to their finished size using digital calipers set to zero on the holes drilled in the base and top as described previously. This facilitates the creation of tight-fitting tenons (*Photo 16*).

## Sanding and finishing

I sanded and finished the spindle (stem) as described for the top above; however, as there are areas of straight

## Assemble the stand



17 Apply glue to the mortise and tenon only to prevent excessive glue squeeze-out.

grain, I also sanded by hand in line with the grain with the lathe off before moving to the next grit. I sealed the stem but left the tenons unsealed for better glue adhesion. I used cellulose sanding sealer thinned fifty percent.

The mating surfaces of the components had all been undercut slightly so as to minimize evidence of where the joins were. I applied a small amount of wood glue to the tenon and hole only (*Photo 17*), ensuring that any squeeze-out would remain within the mating undercuts.

Finally I applied a couple of coats of acrylic lacquer, de-nibbing between coats with 800-grit abrasive. I use a turntable to make it easier to achieve a consistent coat of lacquer. To give it a good luster, I then applied a little microcrystalline wax.

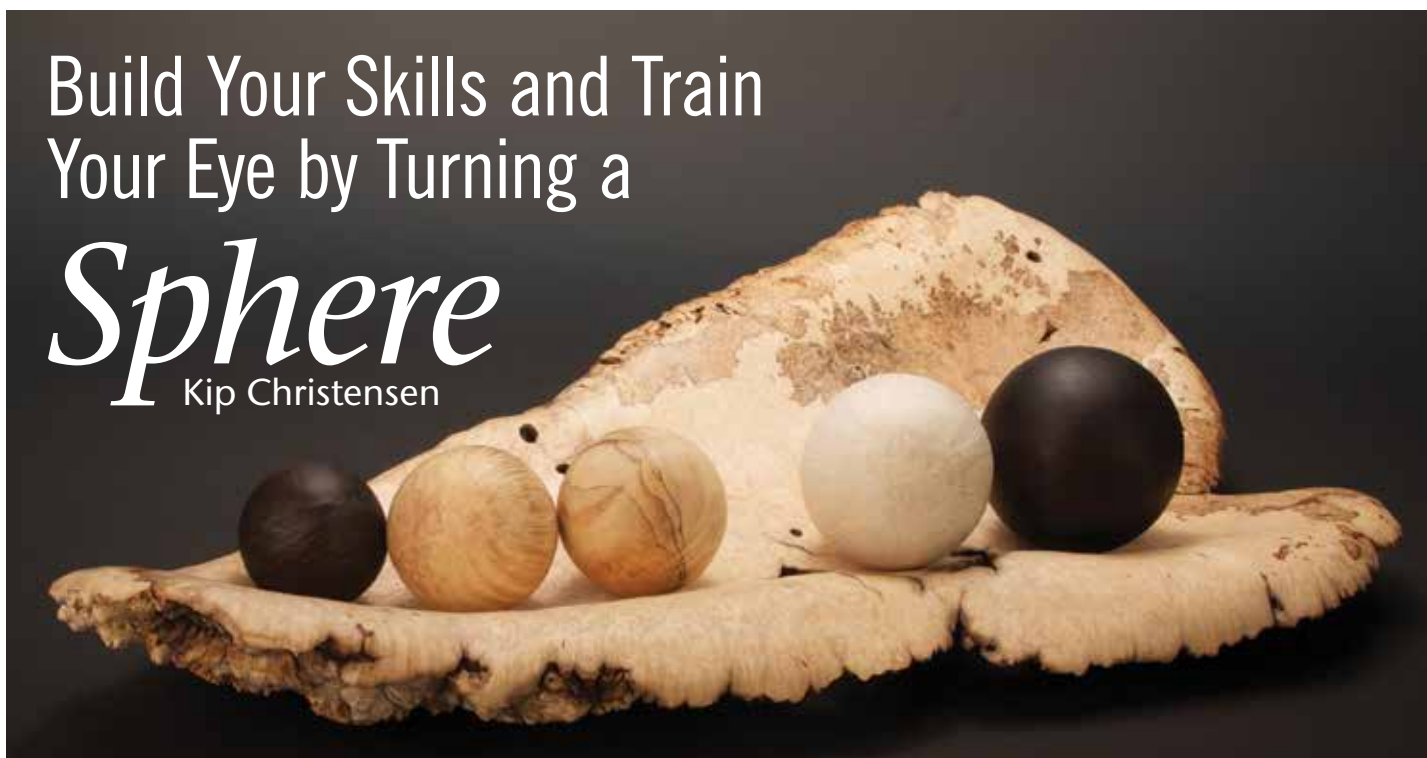
The design of the stand can be altered to suit your needs, but give due consideration to the diameter of the base to ensure stability. Enjoy! ■

*Photos by Jean Grace.*

*Chris Grace's interest in making things started with his grandfather bringing him tools and showing him how to use them. He has been turning since 2008 and is the founder and chairman of South Downs Woodturners in England. Chris sells work by commission, teaches, and demonstrates. For more, visit [NotJustRound.com](http://NotJustRound.com)*

# Build Your Skills and Train Your Eye by Turning a Sphere

Kip Christensen



**Preston Christensen,**  
*Ebaneet e Slanovaya Kost (Ebony and Ivory),*  
2009, Box elder burl, 5" x 21" x 12"  
(13cm x 53cm x 30cm)

These box elder burl spheres were decorated using simple but effective methods. From left to right: turned green and ebonized, natural finish, spalted with natural finish, turned green and bleached, ebonized.

Photo: Kip Christensen

Spheres are fun to turn, provide an interesting way to display a collection of various woods, and make a wonderful pallet for unlimited surface decoration possibilities. After a little practice, they can be turned in about fifteen minutes. There are, however, two more significant reasons why spheres are productive and meaningful projects for turners.

First, making a sphere offers an excellent opportunity to build and

hone a variety of basic turning skills. Most of these skills fall into the category of spindle turning, where the grain is parallel to the bed of the lathe. However, the process also calls for rotating the sphere 90 degrees, so the grain is perpendicular to the lathe bed, similar to most faceplate or bowl-turning projects. Further, when making final cuts to refine the shape of the sphere, the wood is often mounted with the grain oriented randomly in

## Rough-turn the blank



**1**  
To remove the square corners, use a spindle-roughing gouge to make several short cuts beginning at one end and progressing to the other end.



**2**  
Make a series of cuts to remove the square corners until only the cylinder remains.



**3**  
One or two quick planing cuts should remove any remaining flat areas left over from the roughing process.



relation to the lathe bed. All these changes offer you an opportunity to practice both spindle- and faceplate-turning techniques, while making one simple project.

Second, taking a chunk of wood that is square in cross-section and turning it into a ball requires the turner to practice one of turning's most common forms—the symmetrical curve. The ability to visualize and cut perfectly symmetrical coves and beads is an important skill for turners to develop.

## Mount and rough-turn

Turned spheres can range greatly in size. Here, I started with a piece of wood approximately 3" × 3" × 4½" (8cm × 8cm × 11cm). The size of the wood is not critical but the blank should be square in cross-section and one to two inches longer than it is square.

Mark the centers of each end and secure the wood between a drive center in the headstock and a cup-and-point ball-bearing center, or live center, in the tailstock. Adjust the toolrest parallel to the lathe bed, about ¼" (6mm) away from the wood, and slightly below center height. Rotate the spindle by hand to make sure the wood will not contact the toolrest when turning.

With the lathe at about 1500 rpm, turn away the square corners and flat

surfaces until only a cylinder remains. A spindle-roughing gouge works well for this. With the tool handle low, turn using a peeling angle. Start the first cut about ½" (13mm) in from one end of the cylinder and cut toward that end (*Photo 1*). Cut deep enough to remove the corners and all or most of the flat surfaces. As you progress along the blank, begin the next cut about ½" away from the beginning of the previous cut. Continue by making several short nibbling-type cuts as you move from one end of the cylinder to the other (*Photo 2*). After the square corners are removed, take one or two planing cuts the full length of the blank to turn away any flat surfaces (*Photo 3*).

## Determine length



**4** With outside calipers, the diameter of the cylinder can be quickly transferred to the wood to indicate the correct length of the sphere.



**5** Begin the parting tool cut with the tool handle low to create a peeling angle. Raise the tool handle as needed while making the cut.

## Layout key locations

With the lathe off, hold a set of outside calipers across the cylinder and adjust the opening until it is equal to the diameter of the cylinder. Next, turn the lathe on at a slow speed and transfer that distance to the workpiece by resting the calipers on the toolrest and pressing the legs of the calipers lightly against the spinning wood to create burnished layout lines (*Photo 4*). If needed, darken the layout lines using a pencil.

On the outside edge of the layout lines, make parting cuts down to about ¾" (19mm) diameter (*Photo 5*). Be sure to widen the cut slightly as you go to prevent the tool from binding in the kerf.

With a sturdy, sharp skew, remove the excess wood at each end of the blank. ►

## Remove waste, mark center



**6** With the tool handle held low, the shavings do not need to change direction much as the wood is removed.



**7** The peeling angle of the tool produces an efficient, clean cut.



**8** A clearly marked centerline serves as a reference for shaping a symmetrical sphere. Cut from the center toward each end.

## Rough-turn the sphere



**9** Turn one half of the sphere by making several bead cuts. Begin by removing the excess wood at the corner of the cylinder.



**10** Notice that near the end of the cut, the gouge will be rolled into a "closed" position, meaning the flute is pointing nearly to 3 o'clock.



**11** Shown here is the profile of the right half of the sphere.



**12** A small detail or spindle gouge is easier to control when cutting near the bottom of the bead than is a larger shallow gouge.

A peeling angle works best for this cut. Lay the skew flat on the toolrest with the tool handle low and the cutting edge parallel to the lathe bed (*Photo 6*). As you advance the tool into the wood, lift the skew handle gradually to produce a ribbon-type shaving (*Photo 7*).

Use a pencil to mark a centerline between the ends of the blank (*Photo 8*). This line can be measured with a ruler or carefully eyeballed.

## Rough-turn the sphere

Rounding the cylinder into a sphere can be done with a variety of gouges or with a hefty skew. I like to start with a  $\frac{3}{4}$ " shallow spindle gouge sharpened with a fingernail grind. This is a shearing cut made with the bevel gliding on the wood behind the cutting edge. Begin by gradually rounding the corners of the cylinder. Continue making bead cuts until the rough shape of one side of the sphere is turned. Turn one half of the sphere as accurately as you can by eye (*Photos 9–11*).

Then repeat this process to turn the shape of the second half of the sphere. As the cuts get closer to the ends of the sphere it is often easier to use a spindle or detail gouge rather than a wider shallow gouge (*Photo 12*).

Since it is not critical that the sphere be accurately shaped at this point, gauging the shape can be done by eye.

## Remount using cup centers

After the sphere has been turned to rough shape, remove it from the lathe. Next, replace the drive center in the headstock with a cup drive center, and replace the tail center with a ball-bearing cup center (*Photo 13*). For drawings and instructions on how to make your own cup centers, see *Sidebar*.

Remount the sphere between the cup centers with the ends of the sphere perpendicular to the lathe bed (*Photo 14*). Using a spindle, detail, or small bowl gouge, remove the stubs that remain on the ends of the sphere.

## Shopmade Cup Centers

You can buy cup centers made from aluminum or plastic, but I prefer shopmade wood centers. I made mine using an arbor screw chuck for the drive (headstock end) and a revolving center for the tailstock end. These items are commonly available at woodturning supply stores. For the wood parts, I prefer a softer hardwood, such as poplar or soft maple, with the grain running parallel to the lathe bed.

Making the headstock piece, or drive center, is very simple. Start with a block of wood about 2" (5cm) square and drill a  $\frac{3}{16}$ "- (5mm-) diameter hole about  $\frac{3}{4}$ " (19mm) deep into one end. Thread the wood onto the screw chuck. Mount the screw chuck (with the wood) in the headstock's Morse taper, turn away the square corners, and turn a shallow cove that has a smaller radius than the curve of the spheres you plan to make (*Figure 1*).

For the tailstock piece, mount another 2" block of wood on a screw chuck (or in a scroll chuck) and turn a hollow to fit snugly over the front-end portion of the revolving cup center. Use epoxy to glue the wood onto the end of the revolving center. When the epoxy has cured, mount the revolving center with wood in the headstock and tape the ball-bearing section to the Morse taper to temporarily disable its revolving action. Turn away the square corners of the wood, then turn a shallow cove similar to the one you turned for the drive center (*Figure 2*). Finally, remove the tape and secure the revolving center in the tailstock.

Figures: David Heim

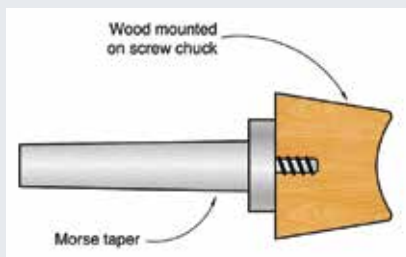


Figure 1. Use an arbor screw chuck for making the drive cup center, which will be mounted in the headstock.

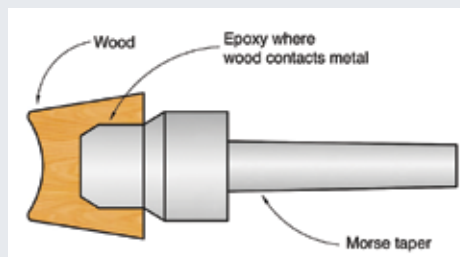


Figure 2. Use a ball-bearing revolving center for making the tailstock cup center.

## Remount, remove stubs



**13** Cup centers are simple fixtures used for holding spheres while turning.



**14** Cup centers allow the sphere to be rotated and mounted in any orientation, which makes it relatively easy to refine the final shape of the sphere.



**15** Before making the refining cuts, it is necessary to remove the stubs that were used to hold the piece between centers. Make sure the toolrest is far enough away for the stubs to clear. After removing the stubs, adjust the toolrest to within about 1/4" of the sphere.

With the tool handle low, make light cuts from each side toward the center of the stubs (*Photo 15*).

As you cut the remaining stubs away, observe the rough-shaped sphere as it spins between the cup centers. You will probably notice a slight blur resulting from the sphere not yet being perfectly round. Look for the solid sphere shape inside the blurred surface and use it as a visual guide to help you refine the shape of the sphere.

### Refine the sphere shape

At this stage, the sphere shape can be further refined using a series of shear-scraping cuts. Since the grain

direction of the wood is now oriented perpendicular to the lathe bed (rather than parallel as when first mounted between centers), cutting “downhill” from large diameter to small diameter would result in cutting directly into the endgrain for much of the cut. To prevent this, cut into the sidegrain by shear-scraping from small diameter to large—in other words, cut “uphill.” This may seem contrary to spindle turning practice, but at this point, the wood is oriented perpendicular to the lathe axis, as in bowl turning.

To make this uphill shear-scraping cut, rotate the bevel of the gouge away from and the flute toward the wood

and start the cut near the cup centers. Take light cuts, working upward and outward toward the outside diameter near the toolrest (*Photo 16*). Repeat this process as necessary by rotating the sphere between the cup centers and turning away the high areas.

When the grain is oriented parallel to the lathe bed, make shearing cuts downhill (from large diameter to small) with the bevel gliding on the wood behind the cutting edge (*Photo 17*). When the grain is oriented askew to the lathe bed (neither exactly perpendicular nor parallel), use a shear-scraping cut, working uphill from near the cup centers outward toward the toolrest (*Photo 18*). ►

## Refine the shape



**16** When the grain is oriented perpendicular to the lathe bed, make shear-scraping cuts “uphill” from small diameter to large. This allows cutting into sidegrain rather than into endgrain.



**17** When the grain is oriented parallel to the lathe bed, cut “downhill” from large diameter to small, taking shearing cuts with the bevel gliding on the wood.



**18** With the grain oriented on a bias, or askew to the lathe bed, treat the cut as if the grain is perpendicular to the bed and use a shear-scraping cut, moving “uphill” from small diameter to large.



## Sand and finish

Once the sphere has been cut and is clean and accurate, it can be sanded. Move the toolrest out of the way, reduce the lathe speed if needed, and sand the sphere (*Photo 19*). Rotate the sphere between the cup centers as needed while you progress from about 150-grit to around 400-grit abrasive.

After the sphere has been fully sanded and is free of any tool marks or sanding

lines, remove the sphere from the lathe and apply finish by hand. There are several finishes that work well. I usually use several coats of an oil finish such as Waterlox or Watco Danish Oil.

After turning a few spheres, you will notice your turning techniques improve and possibly have a few ideas for interesting surface decorations or other reasons for adding spheres to your turning repertoire.

*All process photos by Stephanie Staples.*

Kip Christensen is a professor of technology and engineering education who teaches wood prototyping, furniture design, and manufacturing at Brigham Young University. He has a particular interest in woodturning education and has authored several articles and DVDs on the subject. Kip's DVD, *WoodTurning Projects with Rex and Kip, DVD #4*, includes the full process of turning a sphere; visit [learningturning.com](http://learningturning.com).

## Sand the sphere



19

During the sanding process, the sphere can be rotated and remounted several times in the cup centers while progressing through the various abrasive grits.

## JOURNAL ARCHIVE CONNECTION

AAW's online journal archives contain more learning resources about turned spheres:

- John Brewer offers another take on hand-turning spheres in the Summer 2001 issue (vol 16, no 2, page 26)
- Eugene Lee describes his shopmade sphere-cutting jig in the October 2012 issue (vol 27, no 5, page 42)
- POP's 2008 exhibition featured at the Richmond Symposium was called *The Sphere*; see a sampling in the Spring 2008 issue (vol 23, no 1, page 40)

AAW members can access all past journal articles online at [woodturner.org](http://woodturner.org).



## Decorate Your Sphere Dick Gerard



Last year, I finished a year-long study of turning and decorating wooden spheres, thanks to a POP Fellowship Grant. My proposal was called, "Investigating Spheres in Woodturning," and I'd like to share with you one of the methods for embellishing

use to add interest to any sphere: creating what I call harlequins—named for their varied colors.

### Harlequins

Remount your turned sphere between cup centers, making sure it is centered so the added patterns will flow evenly. Of course, interrupted, or off-center, decorations do lend a certain dynamic to a piece, so precision is optional.

Begin making grooves around the sphere, spaced as evenly as possible. For cutting these grooves, I have used a three-point tool, the long point of a skew, and even the point of a spear-shaped tool (*Photo a*).

Next, I like to burn in these grooves using a burning wire to provide a barrier (and contrast) to any color you might add later. Add the burn

lines before repositioning the sphere in the cup centers.

Rotate the sphere in the cup centers either 90 or 45 degrees—your choice, depending on the design you would like to achieve. Rotating 90 degrees will yield more square shapes (or rectangles), while a 45-degree turn will yield diamond shapes (*Photo b*).

Take the sphere off the lathe and add color to the separate boxes/diamonds (*Photo c*). To hold the sphere for coloring, a vacuum chuck or commercially available carving stand with a vacuum port is useful.

Dick Gerard has created a DVD on decorating wooden spheres. For more information, contact him at [woodturn4@comcast.net](mailto:woodturn4@comcast.net).

spheres I explored under the Grant.

Assuming you have already made some spheres, what are you to do with them? If they are highly figured or have an interesting natural color, I advise doing nothing but applying the finish of your choice and letting the wood do the talking. On the other hand, if the wood is plain, perhaps surface enhancement or decoration is in order. Following is one easy technique you can



a



b



c

# In the Round: A Gallery of Spheres



**Stephen Hatcher and Dale Larson**, *The Chase is On Gecko Box*, 2016, Bigleaf maple burl, calcite crystal, malachite, black mica, 4" (10cm) diameter

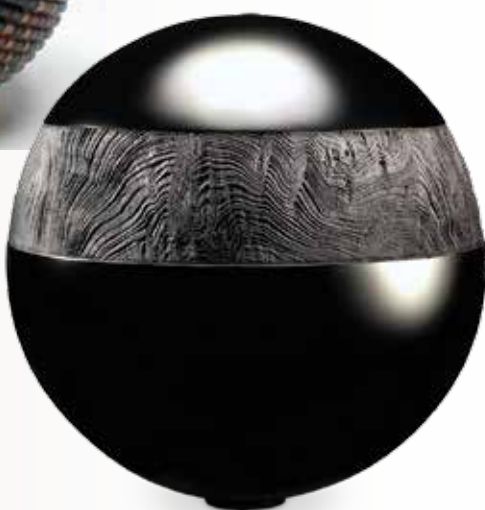


**Dan Burleson**, *Sphere*, 2015, Hard maple, 3" (8cm) diameter

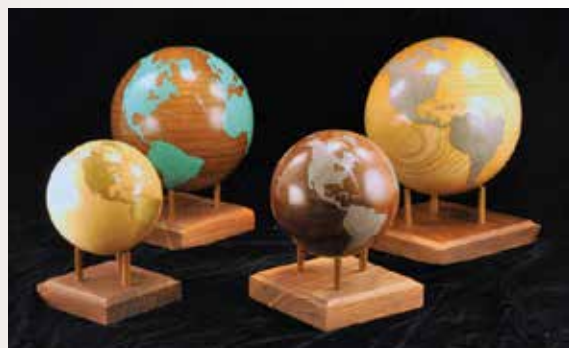
**Rüdiger Marquarding**, *Schwarz*, 2014, Poplar plywood, redwood burl, 8" (20cm) diameter

Collection of Richard and Rita Goldberg

Photo: Rainer Erhard



**Michael Malecki**, *Globes*, 2016, Ash, walnut, maple, aluminum, turquoise, brass, 3½" to 5½" (9cm to 14cm) diameter



I purchased this turned wooden *boule*, or game ball, from a museum in Aiguines, France, near the Escoulen School of Woodturning. It was made there around 1930, along with many others. The 3½" (9cm) diameter *boule* is quite heavy and is made of boxwood root covered with metal nails for durability. It has the number 4 stamped on a little brass cap. —*Bud Latven*

Photo: Bud Latven



**Peter Rand**, *Champagne*, 2016, Willow, 48" (1.2m) tall





A small turned box is held in threaded soft jaws made of high density polyethylene for finishing the bottom. You can customize your soft jaws according to what the workpiece demands.

# Make YOUR OWN Soft Jaws

Bill Ooms

One of the challenges in making boxes is how to hold the box when you are doing the final turning on the bottom. Jam chucks are the traditional approach, but that requires making a custom jam chuck for every box you turn. Many of us have difficulty in getting a fit that's not too loose and not too tight. It would be nice to use a regular four-jaw chuck, but there is always the danger of leaving marks on the wood.

Several years ago, Bonnie Klein showed me a chuck with soft jaws that were threaded to fit the threads on the boxes she made (although she says Jon Magill implemented it before she did). I liked the idea, and since then I've made a number of different sets of soft threaded jaws in many different sizes. It's easy to make your own soft jaws—threaded, dovetail, expanding, or some other special configuration.

## Starting materials

I use ½" - (13mm-) thick sheets of high density polyethylene, or HDPE

(although you could use thicker material, too). Polyethylene is easy to work with and is sufficiently soft so it won't leave a mark on the wood. You can buy sheets of HDPE in various sizes from many sources, including Enco, MSC, OnlineMetals, or McMaster-Carr.

The dimensions for jaws on chucks vary by manufacturer and chuck

size. For this article, I'll be making jaws for a Vicmarc VM100 chuck. The critical dimensions are metric, so I'll use metric for those dimensions. Once you see how these jaws are made, you'll be able to adapt the technique to other brands and sizes of chucks.

The jaws of most chucks are aligned by a circular tenon on the back of each removable jaw that fits in a matching groove in each of the backing jaws on the chuck (*Photo 1*).

## Mimic regular jaws



The underside of a typical jaw has a circular tenon that registers in a corresponding groove in the backing jaw. Custom soft jaws are mounted in the same manner.

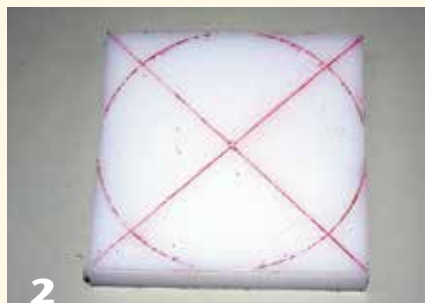
## Making a circular tenon

It is much easier to do the first part of the work with a single piece of polyethylene rather than starting with four separate jaws. I start with a piece of polyethylene about 3" (8cm) square and mark lines across the diagonals to find the center and mark the center with a punch. Then I draw a circle 72mm in diameter with a pair of dividers.

When marking lines, I use a sharp-pointed awl to make a scratch and



## Lay out and turn a circle



Layout lines are “scratched in” with an awl, then filled with a marker. The HDPE is rough-cut on a bandsaw, then trued on the lathe.



## Turn the circular tenon



A parting tool is used to form the circular tenon, used later for mounting the jaws to the chuck.

then fill in the scratch with a china marker (or crayon) or a felt-tip marker. Use a rag to wipe off the excess, leaving the color only in the scratch mark (*Photo 2*).

Rough-cut the disk on a bandsaw, then mount the disk on your lathe by bringing up the tailstock and pressing the surface of the disk up tight to the jaws of a regular chuck (*Photo 3*). Use a spindle gouge to clean up the rough edge left by the bandsaw.

Now that the disk is perfectly round, you can grab it in your regular four-jaw chuck. Cut back the surface by about 1.1mm with a small parting tool over the entire surface of the disk, except for the raised tenon, whose width should be sized to fit the groove in the backing jaws of your chuck. For my VM100 chuck, I need the tenon to be 45mm outside diameter and 35mm inside diameter (*Photo 4*). The most important dimension is the width of the tenon (5mm in my case). You can clean up the recessed cut surfaces to make them nice and flat with a negative-rake scraper.

Check to make sure the tenon on the disk fits tightly in the groove in the backing jaws. You will have to expand/contract the backing jaws a bit to adjust to the diameter of the tenon on the polyethylene disk. Look

at the disk from the side to make sure the cut surface of the disk rests on the top surfaces of the four backing jaws.

## Drill the mounting holes

On the top surface of the disk, mark the location of the holes for the mounting screws and center punch. For my VM100, the holes are 11mm and 29mm from the center (*Photo 5*).

Drill the holes on a drill press (my holes are 5.2mm and I used a #7 drill bit). Next you will countersink the holes for the heads of the mounting screws. You want to make sure not to drill the countersink too deep. I measured how high the screws

extended out of the backing jaws when they were all the way in (i.e., when the screws hit the bottom of the hole and wouldn't go in any farther). In my case, the screws protruded 4.6mm, so I set a depth stop on the drill press to stop at 5.6mm just to be safe. I used a  $\frac{13}{32}$ " (10mm) drill bit to drill the countersink holes (*Photo 6*). Large drill bits can easily grab in the soft plastic, so be sure to hold your work securely.

## Cut into four pieces

Mark additional lines at 45-degree angles to the original lines. ►

## Mark and drill mounting screw holes



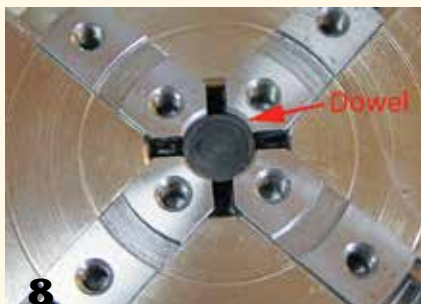
Precisely mark the location of the mounting screw holes. First drill the shank holes, then countersink to recess the screw heads.



## Cut and mount

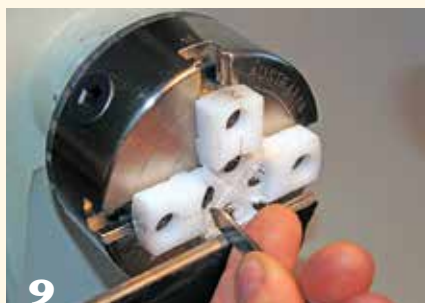


**7** Lay out and cut the four jaws on the bandsaw. Before mounting them on the chuck, tighten the backing jaws onto a dowel to eliminate excess play.

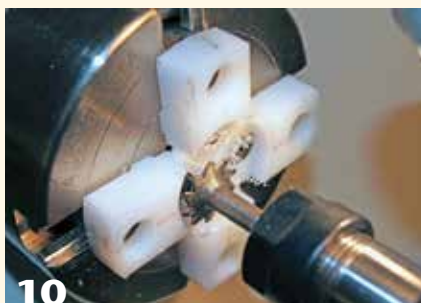


**8**

## Customize your jaws



**9** With the soft jaws mounted, shape them to best hold your workpiece. Shown here is a recess being cut with a parting tool and threads that will accept the threads of the box being mounted, as shown in the opening image.



**10**

Depending on your application, you may want to leave the jaws in the shape of a quarter of a disk or cut them narrower. In my case, I decided to make them  $\frac{3}{4}$ " (19mm) wide, so I marked some additional lines before cutting them out on a bandsaw (Photo 7).

Clean up the sawn edges by sanding on a disk sander. Clean up the remaining fuzzies on the edges with a sharp utility knife.

### Cut the shape of the jaws

Prior to mounting the four pieces on your chuck for final shaping, it is important to make sure the backing jaws are pressing firmly against something. This eliminates the

backlash between the teeth of each backing jaw and the scroll inside the chuck. I turned a small hardwood dowel to a diameter of 11.5mm and clamped the backing jaws firmly onto the dowel (Photo 8). Be sure the dowel doesn't stick out and interfere with mounting the polyethylene jaws.

It is important to number the four pieces so you can always put the same jaw onto the same number backing jaw. This ensures optimum accuracy.

Now mount the four pieces on the backing jaws of the chuck and turn a profile that will grab onto your work. For this example, I'm going to recess the center for a diameter of

1.3" (33mm), being careful to stop before I hit the heads of the mounting screws. As before, a small parting tool works well for this operation (Photo 9).

### Cut the threads

If you want simple jaws without the threads, you can stop now. For holding onto the male threads of a box with a threaded lid, you'll want to cut the threads using a threading jig (like the Bonnie Klein jig or similar product). Hand chasing is probably not a good choice. I'm going to cut 20 tpi threads, but you can cut the threads to whatever spacing you prefer (Photo 10). Remove the jaws and clean up all the fuzzies again with a sharp utility knife.

### Using the jaws

These threaded jaws work well for a range of diameters. You can also make larger ones if needed, as well as expanding threaded jaws for holding the interior of female-threaded box lids.

Soft jaws are not intended for harsh cuts or hollowing operations. Use a tailstock to support your work whenever possible. When making the final cuts without the tailstock, be gentle and take very light cuts (being sure to stand out of the line of fire). Remember, your work is only being held by a "thread." ■

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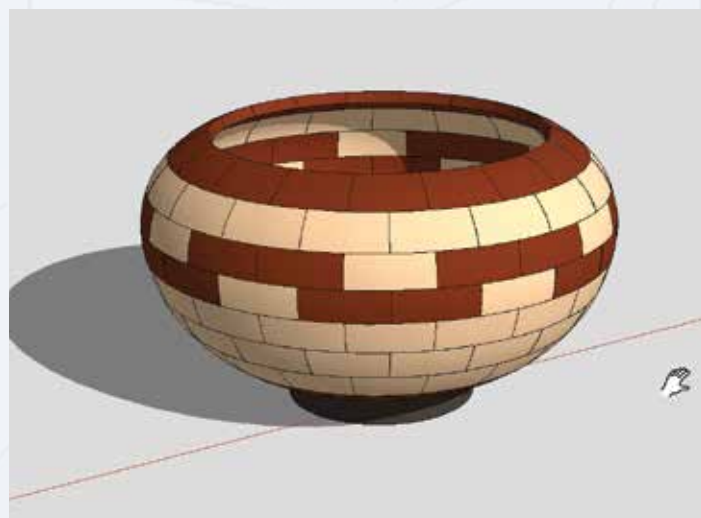
*Bill Ooms learned woodworking from his father. After a career as an engineer, Bill became a full-time woodworker. He works with rose engine and ornamental turning, which combines his woodturning skills with his math and engineering background. For more, visit [billooms.com](http://billooms.com).*

# SEGMENTS with SketchUp

David Heim



Photo: From *Segmented Turning*, by Dennis Keeling, published by The Taunton Press. Used with permission.



A segmented bowl and its SketchUp representation. 3-D modeling can help you create accurate segment patterns and a cutlist.

**P**lanning a segmented turning takes considerable precision and patience. There are a couple of computer programs designed to help you determine the size and shape of the staves or wedges you need, but I prefer to use the SketchUp 3D design program ([sketchup.com](http://sketchup.com)). It is increasingly popular with woodworkers, turners,

architects, product designers, and others worldwide.

SketchUp offers three significant benefits. One, it runs equally well on Windows and Mac. Two, it's free (a Pro version costs \$700, but most users don't need it). Three, SketchUp allows you to create a full-color 3-D model of a turning, with every individual segment perfectly shaped and positioned. You can also use the 3-D model to generate absolutely accurate, full-sized patterns for the segments.

lines, the Tape Measure tool measures lengths and places layout lines, and the Protractor tool sets angles. For turners, the Follow Me tool is critical. This tool extrudes a shape along a path, and it allows you to generate a 3-D version of the bowl with just two mouse clicks.

SketchUp has color-coded on-screen axis lines and numerous prompts to keep you from getting lost in space. For instance, if you want to draw a line parallel to the red, or left-to-right, axis, watch for the line following the cursor to turn red. Orbit, Pan, and Zoom tools make it easy to navigate and view the model from any angle. Clicking the blue question-mark icon at the bottom of the SketchUp screen opens a window that explains how to use whatever tool you have selected. ▶

## JOURNAL ARCHIVE CONNECTION

For more basic information on segmented turning, see "Turning Your First Segmented Bowl" (AW vol 30, no 5, page 18), by Jim Rodgers. AAW members can access all past journal articles online at [woodturner.org](http://woodturner.org).



## SketchUp basics

When you work in SketchUp, you always work in three dimensions and always full size.

Most tools in SketchUp work just like their real counterparts. For example, the Line tool (with a pencil for a cursor) draws straight



## Create a profile and segments

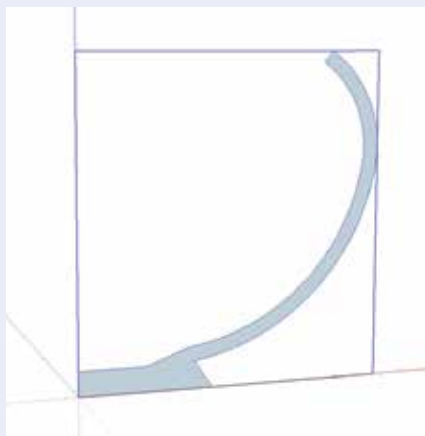


Figure 1. Begin the model of the turning with a profile of the bowl. Anchor it where the colored axis lines meet.

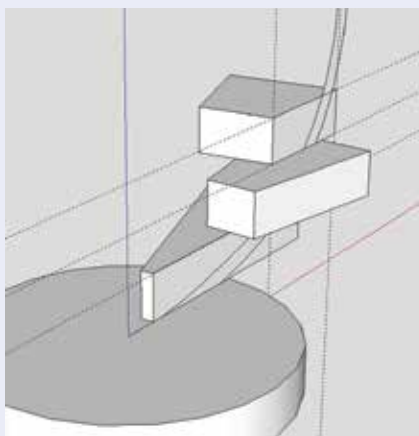


Figure 2. Use the profile as a reference to size and position one wedge for each ring in the turning.

## Merge profile and wedges

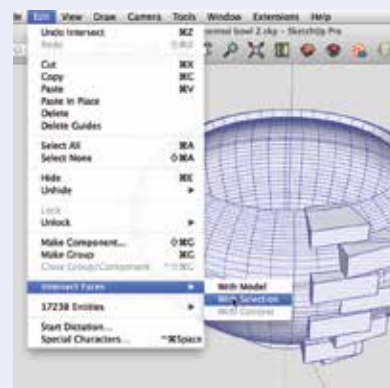


Figure 3. Make the bowl profile into a 3-D shape and merge, or intersect, it with the stack of wedges.

## Building, not drawing

With SketchUp, you don't simply make a perspective drawing of an object. Rather, you construct it piece by piece, much the way you would in real life. Each time you add a new piece, you need to make it what SketchUp terms a component—for woodworkers, a component is basically a virtual piece of wood that's separate from anything else in the model. This is the most important thing to understand about SketchUp. If you don't create components, all you make is a series of random lines that won't add up to anything.

There are two other key concepts to master. One, draw components in place whenever possible to help ensure accuracy and save time. Two, rely on SketchUp's ability to deliver the precise lengths, radiuses, and distances you need. If you want a line exactly 12 $\frac{5}{16}$ " (31cm) long, for instance, begin drawing the line, type that length (without the inch sign), and press Enter.

You can find plenty of online tutorials to learn more about the program,

beginning with SketchUp's own user guide. Go to [sketchup.com/learn](http://sketchup.com/learn).

## Plan a segmented turning

The video accompanying this article shows all the steps involved in using SketchUp to create a model of a segmented turning. Here are the basics.

Use SketchUp's Line and Arc tools to draw the profile of the bowl or vessel you want to make. Once you are satisfied with the shape, make the profile a component. It's a good idea to anchor the edge of the profile at the origin, where the three axis lines meet. The blue, or vertical, axis line makes an ideal centerline for the turning (Figure 1).

## Erase and copy

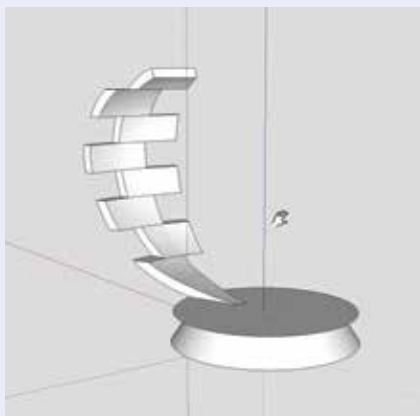


Figure 4. After running the intersection routine, erase most of the drawing so you are left with wedges that are now shaped to match the bowl profile.

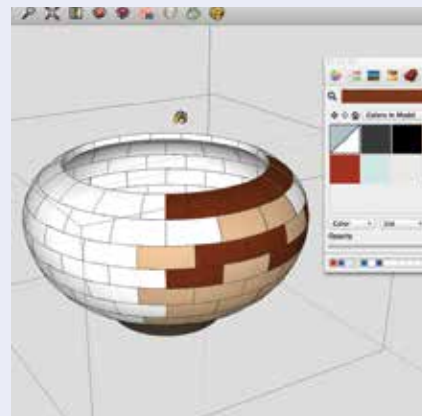


Figure 5. Copy the shaped wedges around a circle to finish the bowl shape. Paint the segments with color to match the woods you will use.

Work in SketchUp much as you would in the shop to create components for the base of the turning and one wedge for each ring you will need. Use the profile as a reference to size and position these components.

It's easy to draw the wedges with SketchUp's Polygon tool. You can set the tool to match the number of wedges you need in each ring (type the number you want and press Enter). That will give you the exact angles for the wedge without any further measuring or calculating. For the bowl shown on these pages, each ring has eighteen wedges, so I set the Polygon tool to generate an eighteen-sided figure. That automatically produces wedges with 80-degree angles on the outside corners. With a little more work using the Offset and Push/Pull tools, you can generate a 3-D wedge. Make

it a component, then move on to the next layer (Figure 2).

To finish the model, use the Follow Me tool to make the bowl profile a 3-D shape. Execute a series of commands to intersect the bowl shape with the wedges (Figure 3). After much erasing to get rid of waste, you'll have a set of shaped segments (Figure 4). Copy and rotate those segments around a circle to complete the bowl.

With the turning model complete, use the Paint Bucket tool to apply a color or wood texture to each segment for a reasonably accurate preview of the actual piece you want to make (Figure 5).

To retrieve the original wedge components for full-sized patterns or measured drawings, go to Window>Components. This opens a new window showing thumbnail images of all the components you

made. Click on one and drag it to the main SketchUp screen. Now you can add dimensions with the Dimension tool or orient the component to print a full-sized pattern (Figure 6).

### Easy and versatile

SketchUp isn't a one-trick pony. You can use it to design just about anything—the table your segmented bowl sits on, the room the table sits in, the house containing the room, even the neighborhood for the house. If you download SketchUp at breakfast, you can be making good models by dinnertime. I encourage you to give it a try. ■

*David Heim is a frequent contributor of articles and SketchUp illustrations to the journal. He is a member of the Nutmeg Woodturners League and can be reached at davidheim1@comcast.net.*

## Create segment drawings

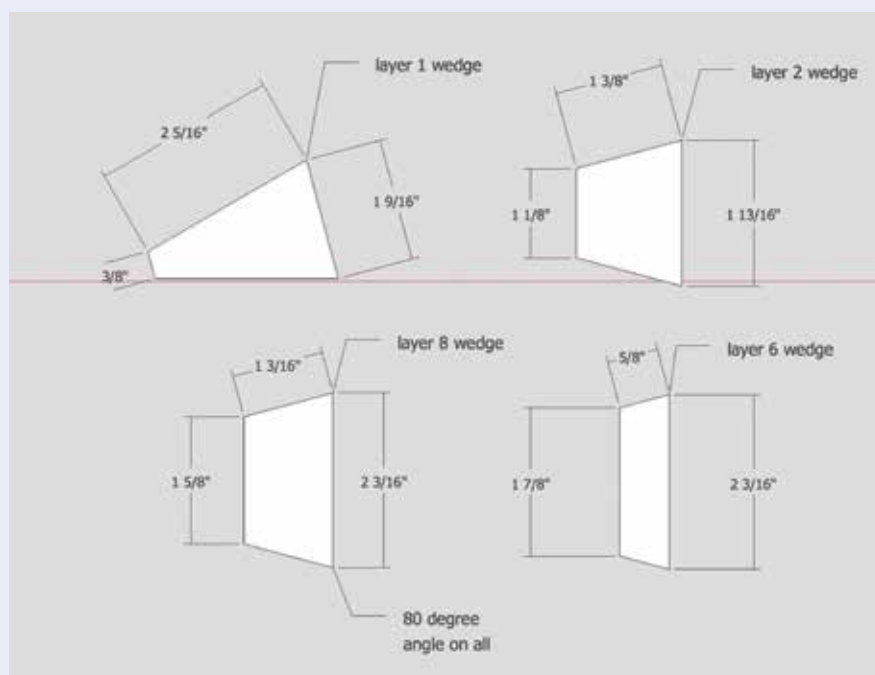


Figure 6. Use copies of the original wedge shapes for a measured drawing or full-size patterns.

## You read the article— now see the video!

This article has an accompanying online video in which David Heim shows you, via real-time screen capture, the key elements of using SketchUp for planning a segmented bowl. To view the video, visit [tiny.cc/SketchUp](http://tiny.cc/SketchUp) or scan the QR code with your mobile device.



# Twisted Boxes on a Shopmade Jig

David Springett

Boxes with six twisted sides can be made entirely on the lathe, using a shopmade jig to hold and reposition the workpiece.



At first glance, these twisted boxes appear to be impossible to turn on the lathe, but hold one horizontally and look along one of the six twisted sides. You will see that the cove has a clear and almost straight pathway. Boxes like these can be fully turned using a shopmade jig and a basic  $\frac{3}{8}$ " (9mm) spindle gouge.

The sequence is to first prepare the box blank by turning a cylinder with a tenon on each end (*Photo 1*), then part the blank to turn the join and inside cavity of the box. The jig now holds the prepared blank on the lathe crosswise, off-center, and at a 45-degree angle—exactly how it needs to be for excavating one twisted cove. Rotating the blank in the jig repositions it for turning the next cove. Finally, with all six coves cut, sanded, and polished, the tenons can be cut off and the

box top and base mounted on jam chucks for shaping and finishing.

The jig indexes by way of a pin in a series of holes. This simple method can be applied to make similar jigs, allowing any number of faces to be presented and cut. The jig as shown cuts a twist that rises from left to right, but the opposite twist can be turned simply by reversing the position of the index blocks. It's also possible to twist-turn two blanks at one time, with the second blank replacing the offside block that spaces and balances the jig. I would really like to see how inventive other woodturners can be in using this twist-turning idea.

## Turn the box blank

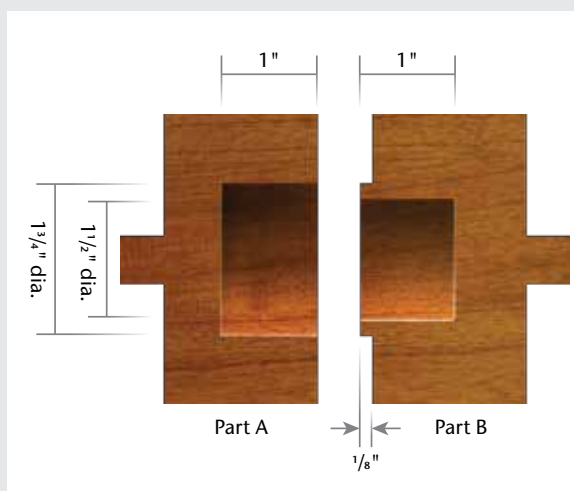
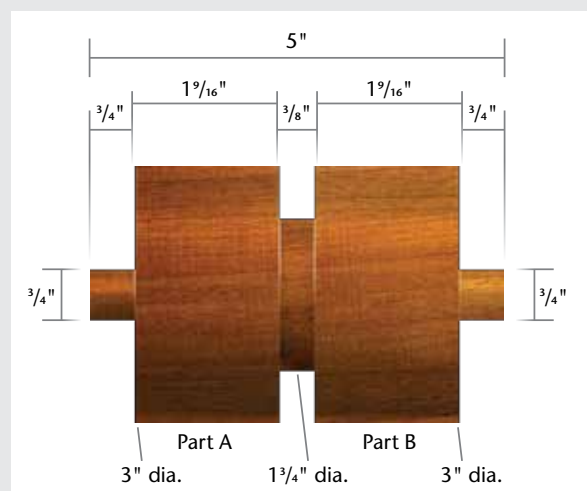
Choose a stable, clean-cutting hardwood for the box blank—I'm using

padauk in the photos—and turn it to the dimensions shown in the drawing (*Figure 1*). Mark a pencil line along its length to help realign the grain. Carefully part through the middle section alongside Part A, leaving the majority of the  $1\frac{3}{4}$ " (44mm-) diameter portion attached to Part B, which will become the bottom of the box. Use the  $\frac{3}{4}$ " tenon to mount the box bottom (Part B) in a chuck so you can turn the shoulder, removing as little wood as possible. Then hollow the inside about 1" deep (*Photo 2*). Set Part B aside.

Chuck the box top (Part A) to turn the face flat and true, again removing as little wood as possible. Then turn a 1" hollow to match the step on Part B and fit the two parts together (*Photo 3*). ►



## Box dimensions



Figures 1, 2. Turn the box blank between centers to 3" diameter, with an accurate 3/4" tenon on each end. Part the block to turn the interior and make the step that joins the two parts.

## Turn the box blank



1 Mount and turn the box blank with a tenon on each end, then part it at the waist.



2 Use the tenon to chuck the box bottom (Part B) and turn the step, the square shoulder, and the inside hollow.



3 Chuck the top of the box (Part A) to turn the matching flat face and hollow, then fit the two parts together.

## Materials and tools

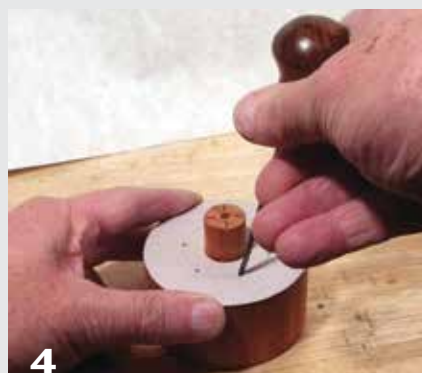
### Wood

- Box blank: Good, close-grained hardwood 5" (13cm) long by 3 1/4" (8cm) square
- Jig body: Two softwood disks, 8" (20cm) in diameter by 3/4" (19mm) thick
- Offside block: Softwood, 8" long by 4 1/2" (11cm) by 4 3/4" (12cm), can be laminated
- Index block: Clear hardwood block cut accurately to 3 1/8" (8cm) long by 3" (7.6cm) square, with a short length of 1/4" (6mm) dowel for the index pin

### Tools & Supplies

- Hot-melt glue gun
- 1/4" bradpoint drill bit
- 3/4" saw-tooth drill bit
- Calipers
- Pencil compass
- Craft knife
- Scissors
- No. 8 wood screws 1" (25mm) and 1 1/2" (38mm) long
- Index card
- Wood glue

## Index pin



4 To locate the indexing pin, fit the card template over the tenon on Part A and mark one of its six points into the wood beneath.



5 Bore the marked hole for the bullet-shaped indexing pin using a 1/4" bradpoint drill bit.

## Index pin

The boxes shown have six facets, indexed with the help of a ring-shaped card template marked with an accurate ring of equally spaced hole centers (see *Photo 4, template in use*). To make the template, use the pencil compass to draw three concentric circles onto an

index card. The circles should have the following diameters: 3", 1½", and ¾".

While the compass is still set for the middle circle, step it around that circle to locate six equally spaced points.

Press the compass point through each of the six hole locations, cut around the outer circle, and use the craft knife

to cut the inner ¾" circle, completing the template.

Part A carries the indexing pin. To locate its hole, slip the index template over the tenon and choose any one of the six points. Mark the wood beneath by pressing the compass point, or an awl, through the card (Photo 4).

At the drill press, use a ¼" brad-point bit to bore ¼" deep at the marked point (Photo 5). Into that hole fit a ¼" dowel with about ¼" exposed. Make the exposed section bullet-shaped and about ⅞" (5mm) in diameter.

## Index blocks

To position and hold the workpiece on the jig, the tenons on the box parts fit holes bored in two triangular index blocks. One of the index blocks has a ring of six equally spaced holes to accept the index pin in part A. Make the two index blocks from a single piece of wood that is an

### Drill index block



6 Bore a centered ¾" hole completely through the index block.

7 Use the index template to mark locations and bore a ring of six ¼" holes around the centered ¾" hole.



### Mark & cut index block

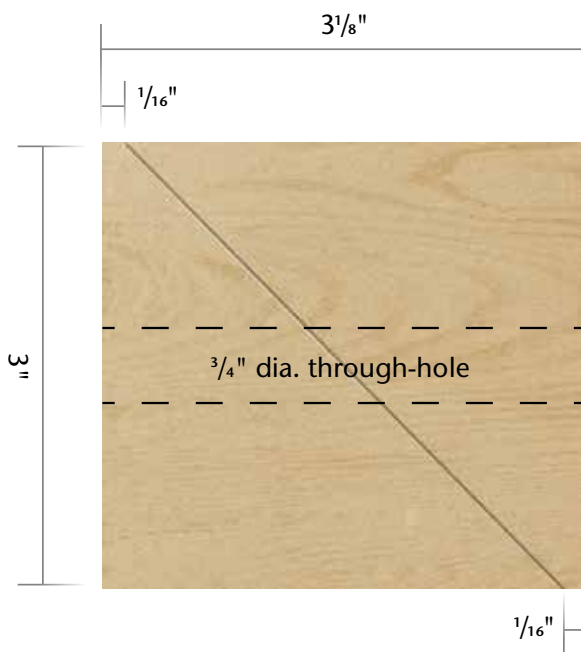
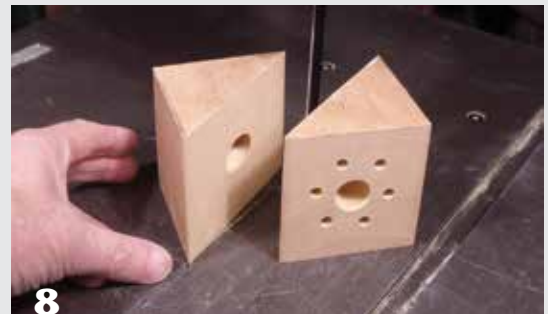


Figure 3. Measure and mark an accurate cut line.



8 Saw the index block into two parts.



9 Verify that Part A, with its index pin, fits in each of the block's six positions.

accurate  $3\frac{1}{8}$ " long by 3" square, with end faces 90 degrees to the sides. Mark pencil diagonals on one end face, and at that center point bore a  $\frac{3}{4}$ " hole completely through the block (*Photo 6*).

Place the index card template on the end face of the block, aligning the hole in the card precisely on the bored hole. Carefully push the awl through each of the six marked holes, making clear indents. Bore  $\frac{1}{4}$ " holes to a depth of  $\frac{3}{8}$ " at each point. These index holes must be accurately marked and drilled (*Photo 7*).

Lay the block on its side with the drilled hole running horizontally and mark the 45-degree line shown in *Figure 3*. Bandsaw along the marked line, then verify that Part A fits in each position (*Photos 8, 9*).

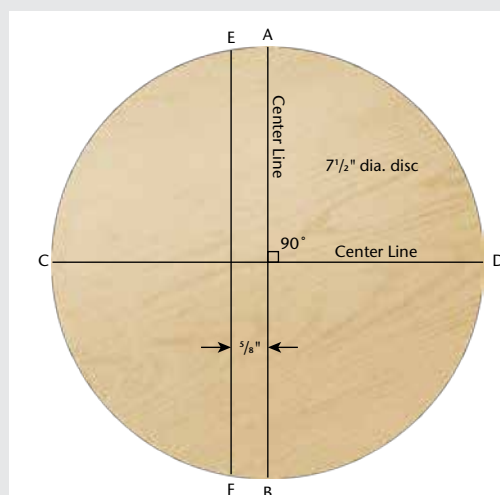
### Jig body

The two 8"-diameter softwood disks sandwich the index blocks and box blank on the lathe. To make the disks match, fix one disk centrally on a faceplate, then use a live center in the tailstock to press the second disk against the first and screw them together. Turn the two disks down to  $7\frac{1}{2}$ " (19cm) diameter. Mark a datum across the edges to help with relocation, and remove the top disk (*Photo 10*).

As shown in *Figure 4*, mark a center point on the disk held on the faceplate and draw the diameter AB. Mark a second diameter CD at 90 degrees to AB. Mark a third line EF that is  $\frac{5}{8}$ " (16mm) away from and parallel to AB.

The offside block spaces the two disks apart, locates and anchors the index blocks, and balances the weight of the workpiece on the lathe. To make it, prepare a softwood block according to the dimensions in the *Materials and Tools* sidebar. As noted there, the offside block can be laminated.

## Turn & mark outside disks



10 Turn the two softwood disks together so they match.

Figure 4. Remove the top disk and mark the faceplate disk according to these measurements.

## Measure height

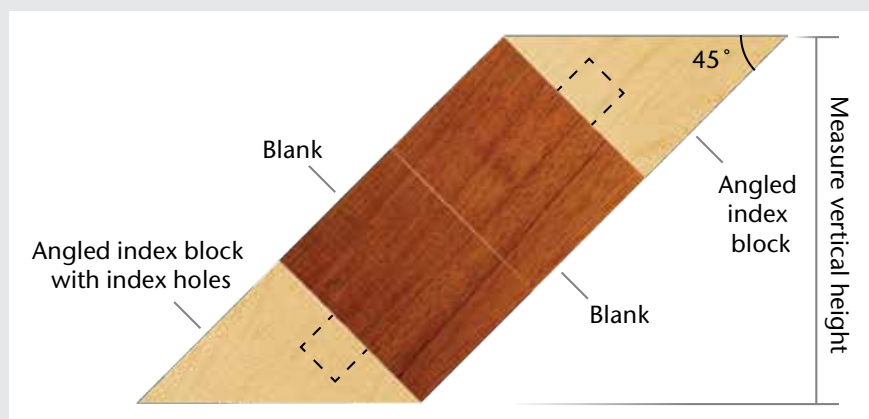


Figure 5. Sandwich the box blank between the two index blocks and measure the assemblage's height.

Fit the two-part workpiece between the two index blocks so you can measure its vertical height; it will be about  $4\frac{1}{2}$ ", but use your own measurement. Accurately cut the offside block to the measured thickness from its  $4\frac{3}{4}$ "-thick side (*Figure 5*).

Set the offside block onto the softwood faceplate, aligning its front edge precisely on line EF and covering line AB. The block has to be glued and screwed (from underneath) to the softwood faceplate. Then

bandsaw the block to match the faceplate (*Photos 11, 12*).

Now fit the box blank between the index blocks and test it against the jig parts, confirming they are the same vertical height. Mount the assembly on the lathe, position the second softwood disk, and bring up the tailstock center to press and hold everything in position while you screw—do not glue—the second disk to the offside block. Use a try square to transfer the centerline CD from the softwood ►

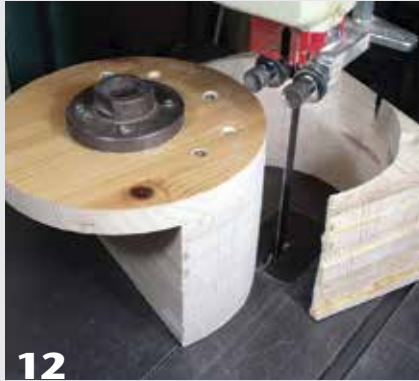


## Assemble jig parts



11

After cutting the offside block according to the measurement found in Figure 5, screw the offside block to the disk. Locate its edge on line EF, covering line AB, and screw it in place from under the disk.



12

Use the softwood faceplate as a guide to bandsaw the offside block.



13

Confirm that the assembled box blank and index blocks are the same vertical height as the jig parts.



14

Use the tailstock to align and clamp the second disk, and screw it to the offside block. The jig body is now complete.

faceplate to the inside surface of the second disk (*Photos 13, 14*).

## Fitting the index blocks

To yield a uniform twist, the front edges of the top and bottom index blocks must be set exactly the same distance from the centerline CD. If the top index block is  $\frac{1}{8}$ " to the left of CD, then the lower index block must be  $\frac{1}{8}$ " to the right of CD. They may both fall on the line (*Photo 15*).

The index blocks need to sit flat against the offside block and be screwed and glued in place. Position each index block exactly, tack it down with hot-melt glue, and screw it in place. Then bandsaw the index blocks so they follow the profile of the rest of the jig (*Photos 16, 17*).

## Turning the twists

Finally the jig is ready to use, but first, the two halves of the box blank need to be temporarily joined. Hot-melt glue them together, aligning grain pattern or original pencil datum. Now you can fit the jig onto the lathe and mount the blank into the jig, making sure all the screws are tight and that the tailstock center is locked firmly in place.

The first time you use the jig, you'll also be cutting a cove in the index

## Fitting the index blocks



15

Set the front edges of the index blocks on the centerline CD, or locate them exactly the same distance to either side of the line.



16

Use hot-melt glue to tack each index block in the exact position, and screw them to the disks.



17

Bandsaw the index blocks to the profile of the two disks.

blocks and offside block. This cove will guide all subsequent cuts, so it needs to be made to the correct width in the first place. But how wide is that? Because the index block has six positions, each cut should be one-sixth the circumference of the workpiece, which can be stepped off with the compass set to its radius, here  $1\frac{1}{2}$ ". Because our workpiece is held at 45 degrees, we can draw a 45-degree line and measure  $1\frac{1}{2}$ " along that line, mark vertically down from the start and finish points of that line, and measure the horizontal distance:  $1\frac{1}{16}$ " (27mm), the true width of the cut. You could confirm this by geometric calculation: in a 45-degree triangle, the short sides are always .707 times the long side (*Figure 6*).

Next measure or confirm the distance between the two softwood disks holding the angled blank,  $4\frac{1}{2}$ " in our setup. Halve this distance to locate the centerline, then to either side measure half of the true width of the cut,  $\frac{17}{32}$ " (13.5mm). Mark these two positions on both the workpiece and the offside block (*Photo 18*).

Before switching the lathe on, rotate the jig by hand to make sure nothing catches. The lathe speed should be around 500 to 700 rpm. Using a regular  $\frac{3}{8}$ " gouge, begin turning from

## Determine cut width

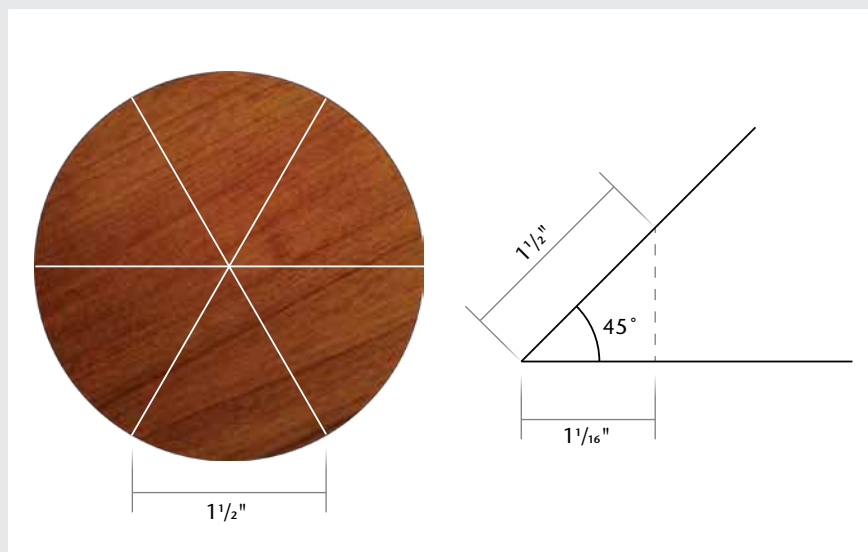


Figure 6. Set the compass to the radius of the workpiece and divide the blank into six equal segments, as shown at left. Since the blank is held at 45° in the jig, mark the segment width on a 45° line to find the true width of cut – in this case,  $1\frac{1}{16}$ ".

the two marked positions toward the centerline. These first, intermittent cuts must be quite light but as the cove deepens you can take more confident cuts (*Photo 19*).

Switch the lathe off to check progress. At the start, the gouge will cut top left and bottom right. As the cut deepens you will see the full curved cut. Continue turning right up to the

true width of the cut as indicated by the two marked positions. Interestingly, the twisted face is produced as a series of scalloped cuts, not one sweeping cut. And the cut along the centerline is what completes the top and bottom edges of the twisted face (*Photo 20*).

When you are satisfied with the turned face, switch the lathe off, hand-sand, and apply finish. ►

## Turn a cove



**18** Mark a centerline, then use the true width of cut to mark the edges of the first cove.



**19** Turn the first cove to the marked edges. The cove will be cut into the jig along with the workpiece.



**20** The deepest cut along the centerline completes the top and bottom edges of the twisted face. Sand the cove by hand before turning the next face, or cove.

Next, withdraw the tailstock, loosen the screws holding the top softwood disk, lift out the workpiece and move it round one position on the index, re-center the softwood disk using the tailstock center, screw it in place, and lock the tailstock firmly against the jig (*Photo 21*).

Cut the second face as before, but this time the profile that has been cut into the softwood block will act as a guide. When all six faces have been turned, sanded, and polished, the piece may be removed from the lathe (*Photo 22*).

Saw off the turned tenons from either end of the twisted box blank and remove the bullet dowel (index pin). To soften the hot-melt glue so that the halves may be separated, take the blank to the microwave and heat on full power for twenty seconds, but do not overheat.

## Finish-turn the top and base

To turn the top of the box, mount it onto a jam chuck and retain it with hot-melt welds, and bring up the tailstock for initial support. I turned the padauk box in the photos to a gentle dome. Turn the box bottom the same way, fitting it onto a plug chuck and securing it with hot-melt glue (*Photos 23–25*).

## Troubleshooting

A turned cove that is wide at one end and narrow at the other shows that the angled index blocks were not set equally away from the centerline CD. Three remedies: enjoy the form you have created, try to remove and realign the angled index blocks, or make a new jig.

If the cuts on various faces are uneven or unequal in size, this indicates that the top softwood disk may not have been replaced accurately each

time, or the index ring of holes was not bored with sufficient care.

Chipping out at the edges may be caused by dull tools or a poor choice of wood, while a chattering cut is most likely caused by a loose jig. The remedy is to make sure all screws are tight and add a tack of hot-melt glue on the blank to make sure it cannot move between the index blocks.

*All illustrations by Robin Springett.*

*David Springett is a British woodturner known for his inventive creations. He is the author of Woodturning Wizardry, Woodturning Full Circle, Woodturning Magic, and, with Nick Agar, Woodturning Evolution.*

## Reposition & turn more coves



21

Undo the tailstock disk to rotate the blank one index position for the next coved face.



22

The profile just cut into the offside block now guides the second and subsequent cuts.

## You read the article—now see the video!

This article has an accompanying online video in which David Springett further explains and demonstrates the use of this shopmade jig. To view the video, visit [tiny.cc/TwistedBox](http://tiny.cc/TwistedBox) or scan the QR code with your mobile device.



## Finish-turn top & base



23

To finish the top to a nicely rounded dome, mount it on a tightly fitting plug chuck and anchor with hot-melt glue.



24



25

Use the same mounting process for the base of the box and turn a clean, slightly undercut foot.



# Turning Multiaxis PAD-FOOT LEGS

Russ Coker

I wanted to make a bench to sit at the foot of our bed, something to catch our coats or hold a blanket for a cold snap. I was looking for a piece that would be presentable yet easy to make. I remembered a pad-foot leg I saw years earlier and thought it might make the difference in my design. Unlike its fancier cousin, the cabriole leg, a pad-foot leg requires no bandsaw work or hand carving. It is a multiaxis turning that begins and ends on the lathe. You can use pad-foot legs on tables and stools as well as on benches like mine.

In the end, I turned the pad-foot legs as well as twenty-five spindles to make my bench. Only the maple backrest and the redwood-burl seat are flat. Turning the backrest spindles and assembling the bench are relatively straightforward procedures (*Figures 1, 2*). The pad-foot leg requires some explanation.

## Careful layout is critical

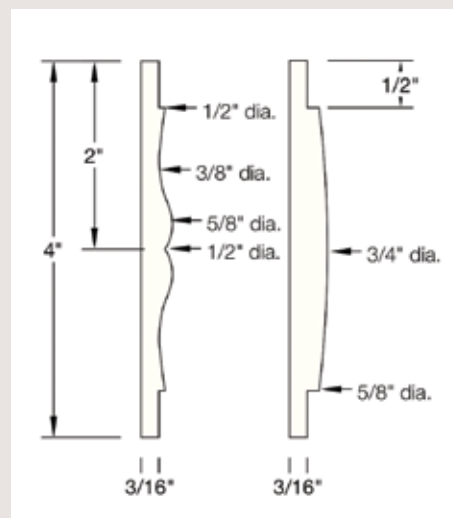
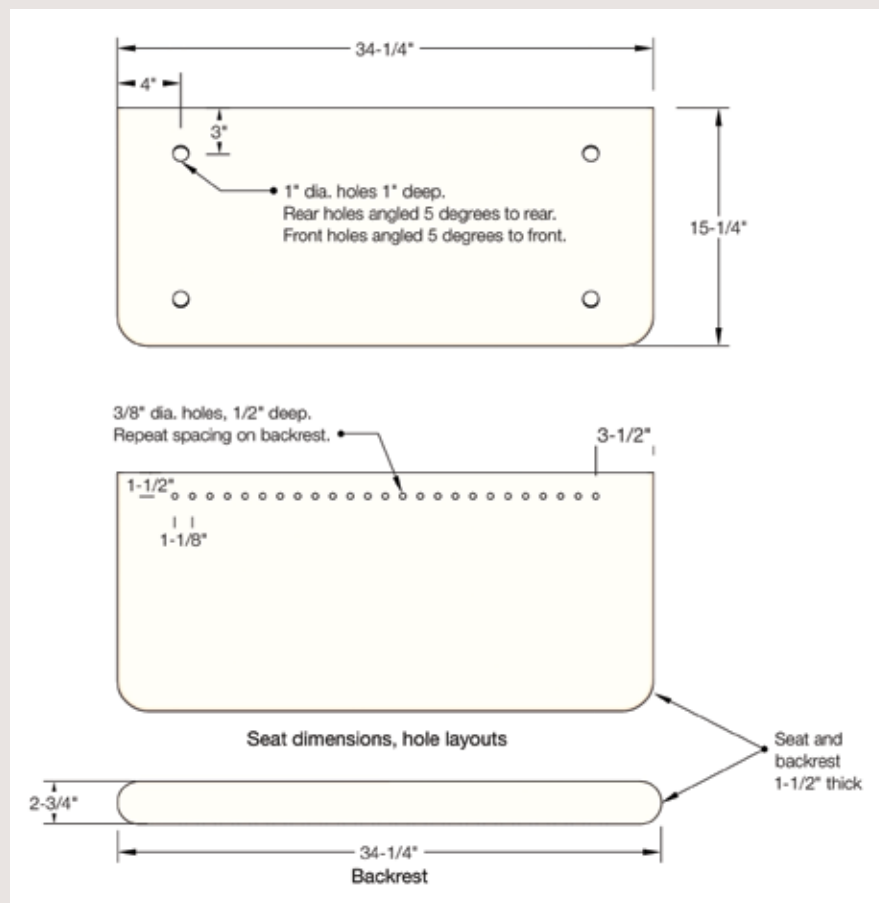
A pad-foot leg consists of three main elements: the pommel, or top section; the tapered leg; and the foot (*Figure 3*). You turn the pommel and foot on the spindle's true centers and the tapered leg and ankle on offset centers. To locate the offset centers properly, you need to know the length of the pommel, the diameter at the top of the foot (the toe), and the diameter of the ankle. An imaginary line connecting the offset centers will intersect a line connecting the true centers at the base of the pommel. This is known as the transition point. ►



Legs from the lathe. The turned pad-foot legs add a distinctive touch to this bench.

Photo: Russ Coker

## Benchtop and spindles



(Left) Figure 1. Positions of the benchtop holes for the legs and spindles.

(Above) Figure 2. Key dimensions for the back spindles.

Begin by cutting the leg blanks on the table saw. For a bench like mine, make the legs  $2\frac{1}{2}$ " (6cm) square and  $15\frac{1}{2}$ " (39cm) long, cutting the blanks as square as possible. Work with clear, straight-grained wood; I prefer hard maple. Take all four blanks from the same piece of wood, for uniform grain and color. Decide which corner of each blank will point toward the front of the leg and mark it. You will need to do that to lay out the offset centers properly. In addition, that front corner will become the pad-foot's toe.

On many pad-foot legs, the pommel is kept square, turned only at the base for the transition to round. For this leg, I chose to turn everything. My pommel consists of a turned tenon, a large ball, and a thin collar. You can alter the

design, of course, enlarging the ball, modifying the collar, or moving the transition point. Together, the pommel elements use  $\frac{3}{4}$ " (8cm) of length. Measured from the top of the leg, that distance marks the transition point.

Lay out diagonal lines from corner to corner to find the true center at both ends of the blank. Use a mallet and center punch to create an indent at the true centers. To determine the placement of the offset center on the bottom of the leg, subtract the diameter of the ankle from the diameter of the foot. On this leg, that offset was 1" (25mm). Mark that location on the bottom end, measuring from the true center along the diagonal pointing toward the back (Photo 1).

To find the upper offset center, it is helpful to draw layout lines on one face

of the leg, as shown in Figure 4. Draw a centerline along the leg's length on the true centers. Draw a line across the face at the transition point. At the base, transfer the lower offset center to the face. Draw a diagonal from the lower offset center, through the intersection of the transition point and centerline, all the way to the top. There, measure the distance from the centerline to the diagonal line. On this leg, the upper offset distance was  $\frac{1}{4}$ " (6mm). On the top end of the leg, mark that offset point from the true center along the diagonal pointing to the front of the leg.

### Rough-turn the foot

Mount the blank on its offset centers, with the top of the leg at the headstock. In this orientation, you can ►

## Pad-foot leg

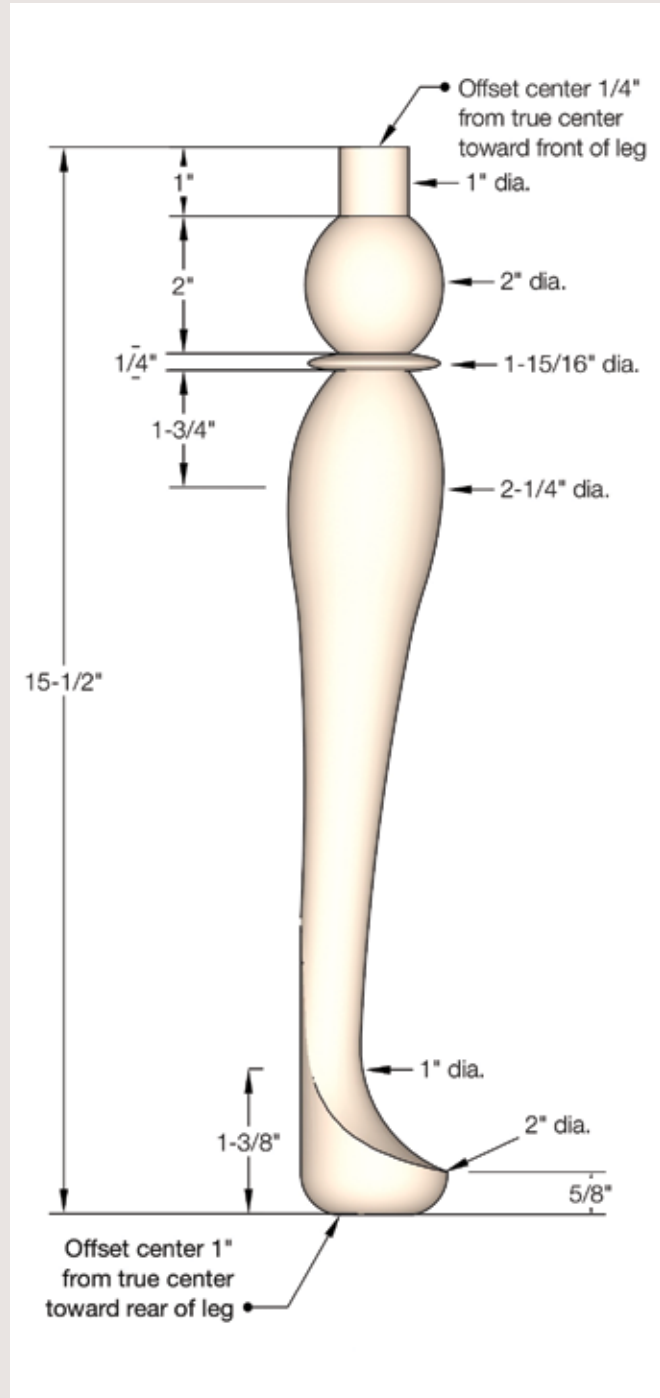


Figure 3. Key dimensions for the pad-foot leg.

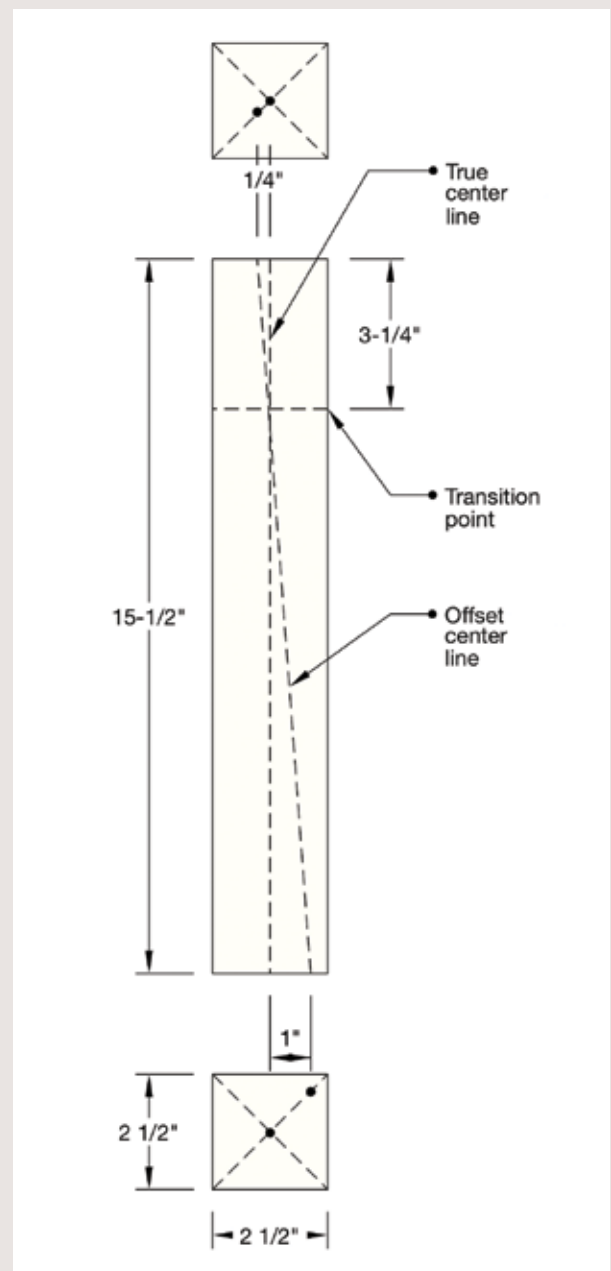
## Mark offset centers



(Left) The bottom offset center is 1" from the true center.

Photo: Russ Coker

(Below) Figure 4. Drawing layout lines on one surface helps in locating the upper offset center.





begin to rough out the foot. Before starting the lathe, double-check to make sure the blank is held securely between centers. I begin at a slow speed, raising the rpm until the lathe begins to vibrate and then backing off a little. Keep your hands low and behind the toolrest. Since you will be cutting wood intermittently, advance your turning tools into the stock slowly, taking very light cuts.

If you look toward the tailstock before cutting, you will see three shadow lines layered on top of one another, along with three end shadows. I use a sharp  $1\frac{1}{8}$ " (28mm) skew to reduce the stock to just short of the second shadow line, taking small cuts to maintain control over the moving stock (*Photo 2*).

Stop the lathe and measure  $\frac{5}{8}$ " (16mm) up from the end of the blank to locate the top of the toe. Draw lines across the flat faces at that point. Starting about  $\frac{1}{4}$ " to the left of the toe line, begin tapering the leg, cutting

from left to right. This delineates the top of the foot. Do not cut to the right of the toe line (*Photos 3–5*).

### Mark the transition point

Start the lathe again to see the remaining shadow lines. They will run from one end of your stock to the other, but they will not cross at an exact point. You should see a flat area about 1" to  $1\frac{1}{2}$ " (25mm to 38mm) wide where the two shadow lines appear to cross.

Touch a pencil or the long point of a skew to the wood near the center of that area. Turn off the lathe and check to see if your mark aligns with the transition point that you drew earlier. If it is within  $\frac{1}{8}$ ", that is close enough. Turn on the lathe and use the long point of the skew to lightly cut all four corners at the transition point. With the lathe off, measure from the top of the blank to the skew mark on all four corners. Because the stock is mounted at an angle, one edge will be short, two edges will be medium length, and one will be

long. Make sure the longest dimension is  $\frac{3}{4}$ " from the top. If it is, use it as the centerline for your transition-point cut. Draw lines across the two faces adjacent to this longest point.

Make a V-cut that slants in from the right to your transition-point mark (*Photo 6*). Keep the left side vertical, because it will form the face of the collar. Remove stock until the wood is round.

### Shape the leg

Now it is time to shape the leg from the V-cut to the foot. Put a mark  $1\frac{3}{8}$ " (35mm) to the left of the toe mark for the center of the ankle. Make a parting cut at that point to pare the ankle down to about 1" diameter. This will be the deepest cut.

Once you have removed much of the waste from the ankle, move up toward the transition point and work back and forth, making the leg round (*Photo 7*). For these cuts, I normally use a spindle-roughing gouge and then a skew. At the foot, I make the final cuts with a  $\frac{1}{2}$ " (13mm) spindle gouge to shape the

## Rough-turn the foot



Round over one corner, mark the toe line, and begin shaping the leg up to the ankle.

Photos: Russ Coker

## Shape the leg



Make a deep V-cut at the transition point, near the top of the leg. Then use a large skew to shape the curves for the leg. Do the final shaping at the ankle with a spindle gouge.

curve from the instep of the foot to the ankle (*Photo 8*). Once you have cut this curve, you can turn the rest of the leg, beginning at the V-cut and working down the leg, removing waste to make the blank round.

The thickest part of the leg falls about  $1\frac{3}{4}$ " (44mm) down from the transition point. The diameter there should be  $2\frac{1}{4}$ " (57mm). From that high point, form a curve left to the V-cut; then work from the high point to form a gentle curve to the ankle.

Once you have completed the shape you want, sand the leg from the transition point to the toe. You will not do any more turning on the offset centers.

### Turn the pommel shapes

Remount the leg on the true centers so you can turn the tenon, ball, and collar and finish shaping the foot.

Turn the section to the left of the V-cut to a diameter a little larger than 2" (5cm). Mark the cylinder for the 1" tenon, the 2" ball, and the  $\frac{1}{4}$ " collar (*Photo 9*). I prefer to use a  $\frac{1}{2}$ " bedan to form the tenon. Reduce the diameter of the collar to  $1\frac{3}{4}$ " and use a spindle gouge or skew to shape the collar. Then shape the ball (*Photo 10*).

With the pommel shapes finished, blend the collar with the leg and refine the shape of the calf. I like to keep as much bulk in the calf as possible, as this makes the ankle look smaller. Stop

## Form the pommel section



**9** Turn the pommel section round and mark the location of the tenon and ball. Then turn the tenon, ball, and collar.



**10**

the lathe frequently to check your work. At some point, you will see a shadow line appear on the calf of the leg. Stop turning and use coarse sandpaper or a file to remove the lines and make the calf section round.

### Finish the toe

With the workpiece still mounted on true centers, turn the toe section down to 2" in diameter (*Photo 11*). To round over the edge of the toe, cut away the bottom corner at about a 45° angle (*Photo 12*). Work the line uphill to join the toe line; the bottom line will round over to meet the flat at the base. Now you have a complete leg (*Photo 13*).

The amount of curve under the toe is a judgment call. A shallower curve provides a larger surface to contact the floor, while a sharper curve will give the leg some visual lift. ■

*Except where noted, photos by David Weaver-Sports Plus Photo. Drawings by David Heim.*

*Russ Coker took up turning when he moved to Oregon in 2002 and began selling his work at craft shows. Now he teaches woodturning at the Multnomah Arts Center and shows his work at the F & G Gallery in Hood River and the RiverSea Gallery in Astoria. He likes to turn utilitarian pieces from maple, pitch pine, cedar, and even old fenceposts. He can be reached at [racoker@comcast.net](mailto:racoker@comcast.net).*

## Finish-turn the foot



**11**



**12**



**13**

Reduce the foot to size. Then round over the foot, working up to the toe and down to the bottom. With a few final cuts and some sanding, the leg is complete.

# TIDEWATER TURNERS OF VIRGINIA

## Portrait of an Active Chapter

David Heim

**A**W chapters come in all sizes, from a few dozen members to a few hundred. Some have their own meeting space, while others use donated space. There are even virtual chapters that meet in cyberspace. All the chapters share one vital function: They serve as the centers of knowledge—the best places to go to begin learning woodturning or to learn more about the craft.

My chapter's monthly meetings alternate show-and-tell demonstrations with learn-to-turn sessions, where members gather to practice a specific technique. Other chapters have much more elaborate programs. A case in point is the Tidewater Turners of Virginia, founded in Virginia Beach in 1987. Its ambitious program of tutorials, teaching, and demonstrations reflects the ongoing influence of Myron W. Curtis, the club's 95-year-old cofounder and mentor-in-chief (*see sidebar*).

### One special tool

Connie Shiera, the club's secretary, says Tidewater Turners has about 110 members, with sixty to eighty attending the monthly meetings. Most members proudly point to a strong personal connection with Myron. He introduced many of them to turning and brought them into the chapter. Several members go to his shop one or two days a week for storytelling sessions and some time at the lathe. (Myron, a Navy veteran, has an inexhaustible store of what he calls sea stories, packed with references to naval aircraft—from seaplanes to his travels around



Founded in 1987, Tidewater Turners stages eight to ten demonstrations every year at area arts festivals and craft shows. This was their booth at this year's Spring Craft Festival, in March.

Photo: Courtesy of Tidewater Turners

the world as flight chief on Super Constellation planes.)

Nearly every single club member has made his or her own version of Myron's signature tool: A ¼" (6mm) drop-nose scraper. Myron began using that kind of tool in the late 1960s, when he was teaching at a Virginia Beach high school. He

needed new tools for his five classes of woodshop students because they had ground the old ones down to stumps. Regrinding cutters from a metalworking lathe was far cheaper than buying new tools. (The drop nose lets a turner work the tool deep into a cut, Myron explains. It also helps make the scraper stable on the toolrest.) Today, the drop-nose scraper is central to the chapter's work with new members, as board member Terry Richards explains. "Every new member is offered a full day of one-on-one mentoring. We always start by having them make a drop-nose scraper. Then they make something with that tool. At the end of the day they go home with two things in their own two hands that they have made."

In late April, the club's officers organized a surprise birthday picnic and party for Myron. While Jerry

“

**MYRON WILL NEVER  
CRITICIZE YOUR WORK,  
BUT HE WILL CRITIQUE  
IT CONSTRUCTIVELY.**

**— RAYMOND KALLMAN,  
TIDEWATER TURNERS  
BOARD CHAIR**



Jorgensen, a club member, spirited Myron away on a bogus errand, a crew set up tents and laid out a spread of twenty salads, a dozen desserts, and a large gas grill to cook hamburgers and hot dogs. When Myron and Jerry drove in, some two dozen club members lined the driveway, raising their drop-nose scrapers in salute.

## Finding new blood

The club has a strong presence in the area. Board chair Raymond Kallman says, “We do eight to ten public demonstrations a year, with one or two that coincide with the members’ show.” This annual exhibition and sale is held in September at a city-owned gallery. The club also stages demonstrations at the Newport News Festival of Folklife, the Great Dismal Swamp Art Festival, the Virginia Beach Spring Craft Market, and other big area festivals. “We usually set up six to eight lathes and turn,” says Kallman. “Spin tops are always a good way to attract kids. We must have turned thousands of tops by now.”

Board member Terry Richards adds, “You can almost guarantee that you’ll get two or three new members after every demonstration.” These events help draw the attention of women and youngsters, as well as retired men. Women now make up about ten percent of the membership, Kallman says, adding that he would like to see the percentage increase.

## Programs for youngsters

In 2010, with Myron’s encouragement, the club conducted a youth turning program the participants named “Sprouting Spindlers.” The six kids in the program made a tool from scratch, grinding a masonry nail into a diamond-point tool. They also got a taste for production turning by completing an order from a local business. The money they earned paid for

the set of shopmade tools that each kid received from club members who supported the program.

Again with Myron’s encouragement, the club began a new youth program in 2015. Seven members work with Melissa Schappell, a visual arts teacher (and club member) at a local high school. Two boys and three girls have participated in a four-session course taught by club volunteers. They began by making a drop-nose scraper (of course), then turning a bud vase, a pen, and an object of their choice. They expect to conduct more sessions through the year. The club established student memberships,

which allowed the kids to be covered under the club’s insurance.

In an email to me, Schappell explained how she came to teach woodturning, with some encouragement from Myron: “I became a member of the Tidewater Turners in the spring of 2015 after seeing them at a demonstration. Ironically, I had just gotten an old Powermatic lathe installed in my classroom after it was removed from another high school. I hadn’t used a lathe before but saw a need for it. One thing led to another, and I was in talks with Ray Kallman about the meetings and club. I kept hearing the name Myron, especially ►



To honor Myron Curtis, the club’s cofounder, at his surprise 95th birthday party, club members saluted him with the drop-nose scrapers they had made.

Photo: David Heim



After the 21-tool salute, club members and their spouses enjoyed a large potluck picnic spread.

Photo: David Heim



Turning demonstrations never fail to attract children as well as adults. These boys were watching at the Great Dismal Swamp Art Festival, held in October 2015.

Photo: Courtesy of Tidewater Turners

## Myron W. Curtis, Mentor

Myron loves woodturning, teaching, and his wife, but not necessarily in that order. Sue Barton Harris, his wife of thirty-seven years, clearly comes first. When Myron mentions her, he uses words like “blessed” and “lucky” to describe their relationship. He sounds like the ordinary guy who still can’t believe he married the homecoming queen.

Early on, Myron learned to trust Sue’s judgment and her eye. An art teacher who taught in the Norfolk, Virginia, schools, she designed the Asian-inspired house they built in the early 1980s in a wooded, secluded area adjoining a wildlife refuge. She also designed many of the balusters, bedposts, columns, and other products Myron has made in his years of production work.

Myron began woodturning as a teenager. In 1937, he built his first lathe, a contraption welded together from sections of water pipe. He still has it, hanging over one of the windows in his shop. Before he became a full-time woodturner, he spent twenty-one years in the Navy as an aviation machinist’s mate, followed by eighteen years of teaching mechanical drawing and woodturning in the Virginia Beach schools.

Myron’s broad shoulders and large hands reflect a lifetime of physical activity. A hearing aid rests behind his right ear. Despite his advanced age, he moves with the steadiness and assurance of someone much younger, whether at the lathe or at the stove cooking hash browns, bacon, and scrambled eggs.

He resembles the actor Spencer Tracy, and he punctuates his endless stream of sea stories with an impish smile. “The thing about a sea story,” he confides, “is that it needs to have been possible.”

At the lathe, however, he replaces the smile with an intense, focused stare and a serious set to his jaw. On the day I spoke with him, he was shaping a long, thick piece of hickory to make a new handle for a peavey. About a dozen tools sat in a pile of shavings on a counter behind the lathe. True to form, though, Myron did most of his work with a ½" (12mm) round-nose scraper that he made himself.

Myron has been a demonstrator at eight AAW Symposia and has taught and studied at the Arrowmont School of Arts and Crafts, in Gatlinburg, Tennessee. He calls teaching his purpose in life. (“The other purpose in life is the wife,” he says.) When asked who has had the greatest influence on his work, he mentions Del Stubbs as well as “everybody I’ve met so far.” He says, “You learn by watching the students and by the questions they ask.” His wife adds, “Myron is always happy when he can have a class succeed in learning to turn.”

He helped found the Tidewater Turners in 1987 and has been the club’s sage, mentor, and all-around guiding presence ever since. When asked what he wants to be remembered for, it’s the teaching over the turning: “Working with Tidewater Turners and for working with all the students I’ve had,” Myron says.

after making my drop-nose scraper. He heard about what we were doing here and came to my shop with some of the other guys to help come up with curriculum ideas. This past Tuesday, he came in during one of our sessions to show his support and offer more advice.”

### Myron’s influence

According to the members I spoke with, Myron has a steady, gentle presence in the club and with individual members. Raymond Kallman says, “Myron will never criticize your work, but he will critique it constructively, to make you understand that there is a better way to do something.” Myron showed Kallman how to turn bracelets, which he says are now a big seller for him.

Pete Summers, who turns canes from the tropical woods used to make shipping crates, met Myron in 2012, not long after he took up woodturning. “I bought one steady rest, and another and another,” he says. “I didn’t really like any of them. Then Myron showed me how to use your free hand to steady the work. I thought I’d burn the calluses off my fingers, but Myron had me try it. Now I don’t use any of the steadies I bought.”

### Life after Myron

When I asked several club officers what life would be like without Myron, their eyes widened and their faces froze in expressions of mild panic. Tidewater Turners without Myron Curtis is something they clearly don’t want to consider. Said one, “I think the club would still be around, but we’d slow down a lot.” ■

*David Heim is a frequent contributor to American Woodturner and a member of the Nutmeg Woodturners League, in Connecticut. He can be reached at davidheim1@comcast.net.*



(Left) Myron and his wife, Sue Barton Harris, at the surprise birthday party for him in late April.

(Top) Myron is all business when at the main lathe in his shop. Here, he’s turning a hickory handle for a peavey.

(Bottom) A round-nose scraper is Myron’s tool of choice. He has spent more than eighty years at the lathe, most recently as a production turner.

Photos: David Heim



# Balloon Assist for Filling Voids

Peter M. Smith

**T**urquoise dust makes a striking inlay to fill voids and imperfections in turnings. Inspired by an *American Woodturner* article on dealing with cracks in bowls (vol 30, no 4, page 20), I dug up a spalted maple vase I had turned; it had large cracks and had been crying out for attention for several years. It was finished but unsatisfactory and had been consigned to “bowl limbo.” I was inspired to improve it.

The cracks in this vase were more than slight imperfections—they called for a large amount of inlay and filler bound with glue. But how was I to fill the voids without having the glue pour through the gaps and into the vase? A balloon inflated inside the vase provided the necessary support.

## The process

Inflate a balloon inside the vase and tie it off. Be careful not to overdo the

pressure and create more cracks. To prevent the glue from adhering to the balloon, I applied paste wax to the balloon through the crack (carefully avoiding the sides) with a small paintbrush, as shown in the *opening image*.

Add filler pieces in the cracks against the balloon and fix in place with a small amount of thin cyanoacrylate (CA) glue. Be sure the glue makes contact with the outer walls of the crack, and try to keep these larger filler pieces below the surface of the workpiece. I used turquoise nuggets (*Photo 1*), which I had on hand. If the design allows, wood chips would also do here.

Then mix turquoise dust with CA or epoxy in about a 30:70 ratio to keep the mix thin, and fill in the rest of the space, smoothing as much as possible. Alternatively, the glue can be added into the crack directly and the dust mixed with it *in situ* (*Photo 2*).

After the glue has cured, burst the balloon and remove as many of the balloon fragments as possible.

## Sand and finish

Sand the turquoise flush with the workpiece by hand or with power-sanding discs. I did not remount the piece on the lathe to do this. Be sure to wear an appropriate dust mask while sanding. Wipe the area clean of sanding dust and add more inlay material as needed for any low spots or gaps. Resand. Finish and buff according to your preference (*Photo 3*). ■

*Peter M. Smith is based in Princeton, New Jersey, and has been turning for more than 30 years. He emphasizes classical bowl forms at the intersection of art and craft that have persisted down the ages. He is currently trying for the perfect bowl. He can be contacted at [peter@sandsmith.com](mailto:peter@sandsmith.com).*



## Fill voids in two steps



1 Use larger filler pieces to take up the majority of space in the void. Glue them in place with a small amount of CA glue.



2 Mix turquoise dust with glue to fill the remaining space.

## Sand, finish, buff



Sand the turquoise flush with the workpiece. Finish and buff.



# SCALING K2:

## KEITH GOTSCHALL

David M. Fry



Keith Gotschall with 7' (2m) Honey Dipper for a trade show: "I love my job."

Like any seasoned rock climber, woodturner Keith Gotschall takes the details seriously, planning ahead, using a smart grip and stance, playing the work surface to advantage, staying balanced, and ramping up concentration when the stakes really count. Perhaps such ingrained methods explain why he is better known as an accomplished and versatile maker rather than a studio artist with one or two signature products or styles. Even with a slew of impressive architectural turnings, functional bowls, and diverse gallery objects to his credit, his sense of pride seems to reside more in the process, the well-honed set of shop skills that allows him to create whatever his clients or personal muse might summon. A capable sculptor in several media, he still considers himself first and foremost a craftsman.

### Living the dream

Unlike many professional woodturners, Keith is pretty much living the life today he imagined for himself while a teenager. He recalls that at one point in high school shop, "I was working at the lathe thinking about an old man puttering around his woodshop after a lifetime of work, and I thought, 'That really seems like a worthy goal.' So I ultimately decided to go into the craft right out of high school, even though I had good enough grades for college, which provoked one teacher to throw up his hands and say, 'Woodworking! You could do that as a hobby.'"

It was another passion—rock climbing—that took him from

Indiana in 1980 to the challenging heights around Boulder, Colorado, where he bankrolled his outdoor adventures with a series of wood-working jobs. Starting out in a furniture factory and cycling through a few smaller shops, he wound up as foreman and engineer, anchoring a designer with an untethered imagination. In 1989, Keith left that job and started K2 Woodworks in a new, shared space, free at last to pursue his own ideas and clients. Furniture commissions and a few speculative projects eventually led to larger scale interior productions encompassing architectural elements, lighting, and furnishings.

Keith is quick to point out that up until the late 1990s, “I hadn’t thought of the lathe at all after high school. None of the shops I’d been working in had one.” That all changed during a local studio tour in 1998, when Keith “visited a woodturner with a big lathe and freshly sharpened gouges on display. I took a few cuts on a large wet maple block and it all came flooding back to me: Turning was the whole reason I had gotten into woodworking. Within a month, I bought a lathe and some tools and videos. It was all-consuming. After a year, I realized, ‘I’m just a turner now,’” even though he would eventually return to furniture and sculpture on occasion.

The greatest early influences on Keith’s turning were associated with Craft Supplies USA, especially production turners Richard Raffan and Mike Mahoney. Keith was particularly struck by Mike’s speed and candor about sales and output. “I did the math and could see his operation was more profitable than any other woodworker’s I knew. So I very much followed in his footsteps in the beginning.” Keith soon developed a line of robust salad bowls, eventually complemented by delicate hollow



*Salad Bowl*, 2008, Silver maple, 6¼" × 14½" (16cm × 37cm)

Standard shape with two-bead detail. The robust piece is typical of Keith’s early production bowls.

turnings and decorative vessels marketed through craft fairs and galleries locally and far beyond. “I never quite had the success Mike had, but his approach earned enough for me to buy a new studio that came with a house in Salida [Colorado].”

### Upheaval

Some two-and-a-half hours southwest of Boulder/Denver, Salida offered a spectacular setting for rock climbing, but also proved to be remote from the raw materials for Keith’s production work. With most local trees unsuitable

for his operation, logs had to be brought in from the Front Range, sawn into blanks, and turned into bowls. The inefficiencies became increasingly acute as the economy drifted toward the Great Recession. About this time, Keith met his future wife, Catherine, an Englishwoman whom he would soon accompany back to the U.K. for an eighteen-month hiatus from his business. When they returned, the old challenges remained and his connections with galleries—those that had survived the economic downturn—had frayed. ►



Keith with his current stock in trade. For this type of custom architectural millwork, there is no real local competition.



*Vessel*, 2010, Holly, ebony, 3" × 4½" (8cm × 11cm)

“These holly and ebony bowls reflect my furniture background,” notes Keith. “They are super precise and hard to make. I like the assemblage of parts in my work but don’t really feel any connection to segmented forms.”



Fortunately, his well-equipped woodworking shop positioned Keith to pivot easily toward another type of production work that, in his mind, “almost found *me*. I was in fact already set up to handle architectural millwork,” a diversifying strategy encouraged by Richard Raffan. Just after Keith extended his 4'- (1.2m-) long Vicmarc lathe to 12' (3.6m), a porch post order from Florida came through that paid for the bed extension. (As with much of his column turning, no layup for box beams was involved because he was working solid logs to convey a simple rustic look.) Since then, the bulk of his output has centered on a wide variety of turnings for the trades and homeowners, usually small batches of period or oddball items difficult to find off the shelf or expensive to set up for automation. These include columns, newel posts, balusters, and other woodwork common among many of the Victorian structures in his local area, as well as drop



Although primarily a production spindle turner these days, Keith is well equipped to handle demanding faceplate work with this BV36 Master Bowlturner lathe.

spindles for yarn spinners and fittings for commercial river rafts. But a couple of times a year, a check arrives for sculpture and vessels occasionally sold through his remaining gallery clients.

### Pricing and operations

Keith's shop requires \$60/hour to remain comfortably profitable for production work. His rate reflects not so much an intuitive sense of profes-

sional self-worth, but rather a refined calculation from years of experience gauging his output capacity and

expenses. Developing speed at the lathe has been crucial. Keith recalls a telling case: “A local woodworker with limited turning experience got an order for porch spandrels [decorative overhead spindles] but didn't know how to price them. Making one had proved time-consuming. He asked me whether \$30 a spindle seemed reasonable. When I gave it a try, I could turn one out every six

minutes at a gentlemanly pace.

He wound up giving me the job at \$8 apiece, so I made really good money.” And the retail customer got a reasonable price.

Overall, production work accounts for two-thirds of Keith's business. Turnings make up the majority of that, but flat millwork and furniture also represent significant sources of income. Most of the remaining third comes from out-of-town workshops. One-off gallery sales now amount to only a small trickle of the revenue stream. As he notes, “The old craft gallery model of consignment and delayed payment is a tough way to run a business. But with piecework, half the money comes up front, with the rest due when the job is finished.”

Most of Keith's jobs come by word of mouth. “I'm hesitant to advertise,” he admits, “because it has sometimes brought me the worst clients of my life.” But he is still considering mailing out a brochure on architectural millwork to trade shops in the cities along the Front Range. And the occasional articles he writes for woodturning magazines may boost his profile among potential students.

### Giving instruction

Keith travels five or six times a year to teach, which feels just about perfect. Most gigs are conventional demos, but hands-on courses remain an option. Presentations can be tailored to beginners or advanced turners. Venues have included the



*Desert Fruit*, 2009, Poplar, African mahogany, milk paint, 29" x 23" x 24½" (74cm x 58cm x 62cm)

This piece was inspired by the sculptural furniture of Derek Secor Davis. It features a one-piece pedestal and a base originally designed to shed occasional spraying by Keith's mischievous dog.

Collection of Tom and Melinda Wirsing





*Sentinel*, 2010, Colorado yule marble, 12" (30cm) tall

A study in carving faces that reflects Keith's skill in both representational and stylized sculpture.



Using an improvised steady rest, Keith tackles a challenging Douglas fir beam. The soft early wood dents almost immediately, producing annoying chatter. He now relies on a birch ply steady that cradles the turning with notched arms.

Utah Woodturning Symposium, Anderson Ranch, Center for Furniture Craftsmanship, and a half-dozen national AAW Symposia. Content spans a wide spectrum of projects, from winged, lidded, or natural-edge bowls to eccentric platters and three-legged stools. Design, tools, cuts, and jigs receive detailed attention. Over the years, he has occasionally hosted workshops at his own shop, although the remote location has made this model difficult to sustain over the long term.

### Mindset and work habits

Keith has never had apprentices, employees, or subcontractors and doesn't own any duplicators or automated equipment. Everything that leaves his shop represents the disciplined interplay of his own mind, sight, and touch, often over long stretches of time. In his experience, "I don't find repetition to be boring; rather, it becomes meditative. At its

“**If you're John Henry going up against a big copy lathe, better get your chops down before you hang your shingle.**”  
—Keith Gotschall

best, I can focus on what I'm doing and think about anything else I'd like to.”

“I really try to impart skills during my demos. Yes, the crowd always likes you to make something, but I hammer on the basics. Many in the audience have never seen them or never learned them. Both my big pieces and fine, thin projects have helped me understand these basics. If I do them less than perfectly on

either end of the scale, I get too much vibration, and that results in poor cuts.”

Although Keith strives to work in the moment, spontaneity no longer plays the role it once did. He says that he “at least sketches, and may draw out exactly what I want to make. On my more successful projects, I've minimized improvisation.” This reliance on draftsmanship probably reflects his familiarity with clients' dimensioned drawings, as well as his art classes in figurative representation. Drawing is clearly central to his sculptural approach, whether stylized or lifelike, before he advances to 3-D realization. Interestingly, he prefers the subtractive process in sculpture, as in woodturning: “When working in clay, I usually lump on big hunks and carve off, instead of building up slowly.”

### Lessons from the mountain

One turning insight Keith has gleaned from rock climbing is the ►

importance of total body movement. He observes that “Any good climber knows it’s mostly about footwork—a dance to make the most of the steps available—and less about the upper body. At the lathe, I often think about the shifting of weight when I am trying to make that final cut in one go around a curve. It’s the coordinated action of arms, legs, and core that makes the cut succeed.”

“Again, the climbing analogy is particularly apt for my turning. The sense of achievement in climbing is less the summit and more the route I took, how purely I was able to climb it. With turning, the joy for me is really in the making, not the selling.” Of course, the market still underlies his enterprise. As Keith notes, “My original business name, K2 Woodworks, is a nod to the notorious mountain. I always realized the biggest, most dangerous mountain I was ever going to climb was the business of running my own shop.”

### Woodturning as a career

For the young aspirant considering a full-time career in woodturning, Keith is “sure it can be done” profitably, even without the assistance of a spouse or partner. “In my case, Catherine has really been supportive, helping out with hosting workshops here in Salida and stabilizing the cash flow. But newcomers need to go in with their eyes wide open. I see an awful lot of people who make a good bowl but don’t charge enough or take too long to make something. If you’re John Henry going up against a big copy lathe, better get your chops down before you hang your shingle.” ■

*David M. Fry turns wood and writes near Washington, D.C.*



*The Good Knight*, 1994, Cherry, basswood, 16" (41cm) tall

From a series of whimsical jewelry boxes playing off puns.



Yarn spinner’s drop spindles and cups, Maple, 11" (28cm) spindles, 3" (8cm-) diameter cups.

Specialty turnings like these represent significant new income sources for woodworkers used to traditional millwork. As with everything else, speed is critical for the bottom line.



*Hollow Forms*, 2000, Buckeye burl, 12" (30cm) diameters.

Keith hollows these light-weight vessels freehand, using a tool with an arm cuff for support.



# MEMBERS' GALLERY

## Michael Alguire, New Mexico

Last year, while working to contain the massive Gasquet Complex fire in California's Del Norte County, my firefighter brother-in-law Gerad Montoya and friend Josh Gonzalez stumbled upon a piece of scorched madrone and instantly thought of me, a woodturner. They were working as part of a volunteer crew sent more than a thousand miles from New Mexico, where I live.

Firefighters work hard to protect us, our property, and the beautiful forests. I was honored that they thought of me when they found the madrone, and I wanted to make a commemorative piece from the wood. My first idea was to turn the vessel and carve flames on the rim. However, while I was turning, I thought about the intense fire this piece had been through and decided to leave as much of its natural features as possible.

I decided there was no better way to show my thanks than to return the piece to the ones who had brought it to me, so they, too, could use it to tell their awesome story to their crew, family, and friends.



Photo: Jim McLain

*The Gasquet Complex*, 2016, Madrone burl,  
10½" × 5½" (27cm × 14cm)

## Albert Jan Rouwkema, Netherlands

I am fascinated by the irregular patterns in wood—particularly burrs, with regularity in the ringbark and wildness inside, showing the tree's struggle for existence. My designs are inspired by such natural and mathematical forms and often combine several materials and processes. Turned wood, for example, may be combined with bent brass, springsteel, or paint. Still, wood remains the most important material in my pieces.

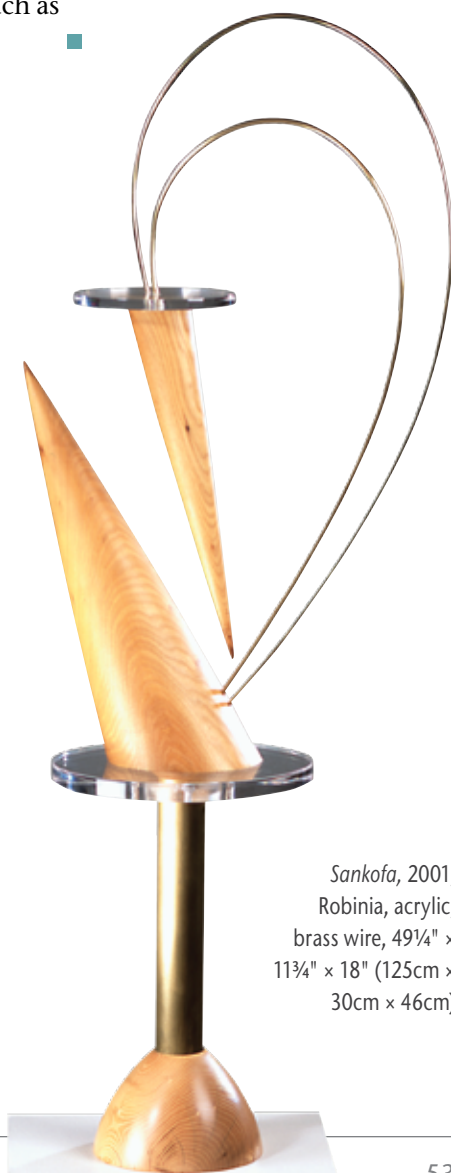
I often try to impart a dynamic aspect in my work, as you can see in *Sankofa*. Some of my pieces have also been inspired by my own exposure to different cultures, such as those in African countries.

For more, visit [houtstylist.nl](http://houtstylist.nl).



*Evolution of a Mind*, 2001, Pine, brass,  
largest is 6¾" (17cm) diameter

*Dubbele wortels  
en een rode  
draad* (Double  
root and a  
thread), 2008,  
Conifer root,  
elm, jute, wool,  
39¼" × 11¾"  
(100cm × 30cm)



*Sankofa*, 2001,  
Robinia, acrylic,  
brass wire, 49¼" ×  
11¾" × 18" (125cm ×  
30cm × 46cm)




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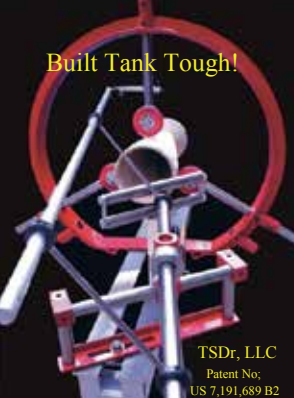
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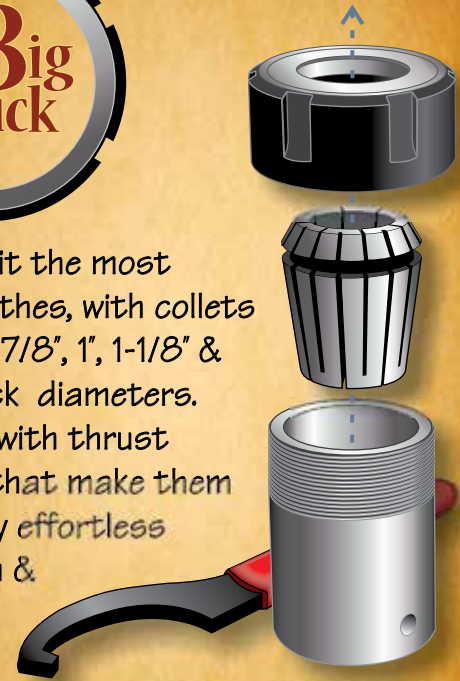
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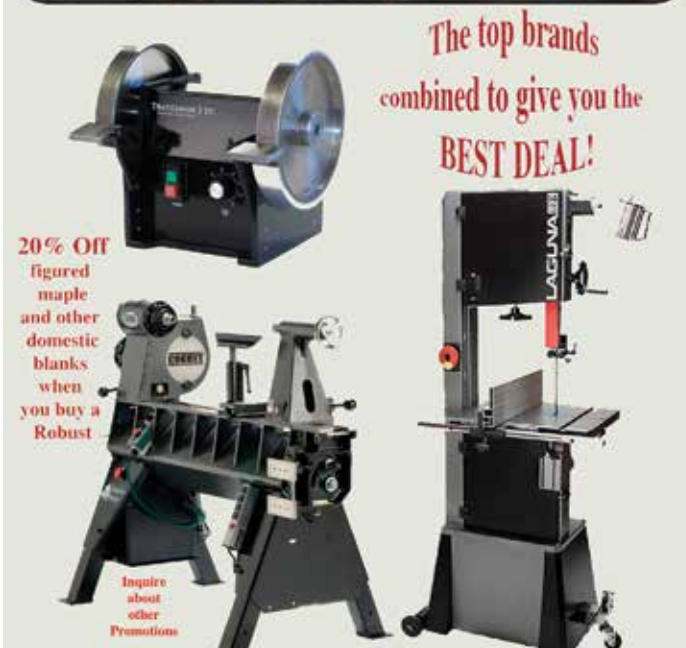
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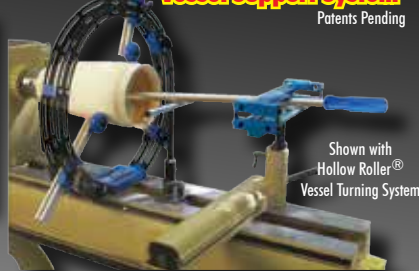
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I started out making an op-art piece, envisioning a full cube with a sphere-shaped void in its interior. One of the cool things about that process is that I end up with grid waste in the shape of a rough sphere. Rather than discard this material, I decided to turn a sphere. Then I decided to present the sphere with half of the cube, to highlight the tension between the two elements.

*My Better Half and Stick Ball #2—Rematch,*  
2016, Walnut, half cube is 7" x 7" x 3¼"  
(18cm x 18cm x 8cm), sphere is 5"  
(13cm) diameter

