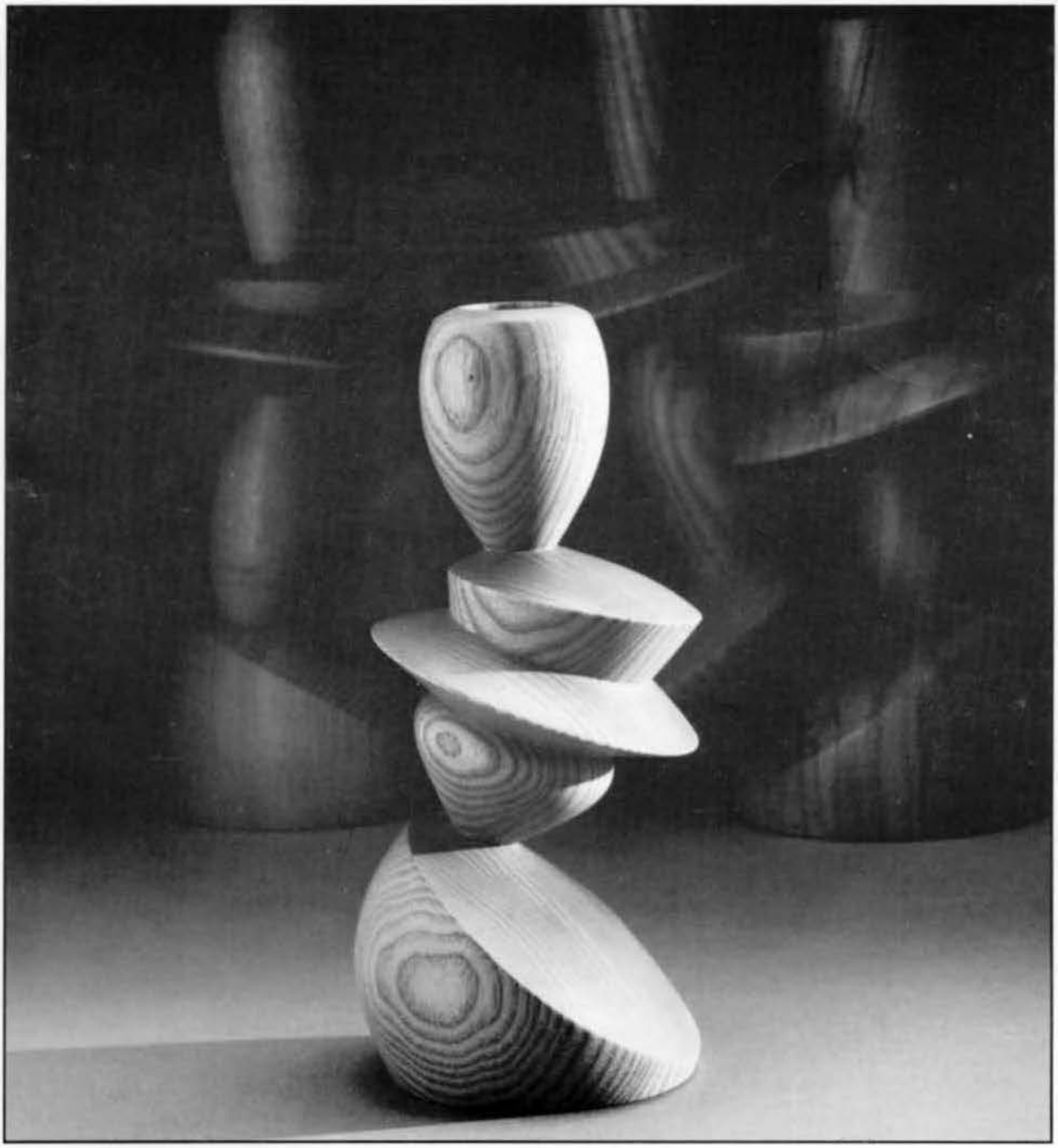
American Woodturner

The Journal of the American Association of Woodturners | June 1993 | $5.00 | Vol. 8, No. 2



Dedicated to Providing
Education, Information, and Organization
To Those Interested in Woodturning

PRESIDENT'S PAGE

Alan Lacer, President of the American Association of Woodturners

We finally must be coming of age as an organization: we have been presented with our first possibility of a lawsuit. This issue stems from something that I have been wishing to write about for some time--product reviews in our journal.

By and large I have been unenthusiastic about reviews in most major woodworking publications. When was the last time you read a negative review of a product, book, or video? Negative reviews do occur of course, but they are infrequent. Some publications get close to such reviews when they do product comparisons, but this leaves out books and videos. I am now beginning to understand why there are not more negative reviews: if a magazine only publishes favorable reviews, it does not run the risk of lawsuits or of withdrawals of advertising. This situation stifles critical discussion of the products showered on turners in recent years. Surely not all of the products are worthy of our purchases.

In an uncritical publishing environment what do we really get? Don't we essentially end up with ads and not reviews? This reminds me of a local paper that has a restaurant review section. I don't think I have ever seen a negative comment made of a local restaurant. Haven't any of these reviewers ever had poor service or cold food or a bad meal? Such "reviews" may as well have been (and perhaps were) written by the restaurant owners. By the way, we recently had a manufacturer of a product offer to write the review of his product for our journal. Seriously!

In all fairness to the magazines, keeping the manufacturers happy or at least not meeting them in court is something that must be weighed. In a country of 5 percent of the world's population and 70 percent of the world's attorneys this is far more than unbridled paranoia. Publications face a dilemma: doing honest and fair reviews, backed up with as much fact as possible, may still lead to lost ad revenue and legal challenges. Defending your case, even when you are right, is costly and time consuming. So I am not totally critical of magazines for not printing more scathing reviews, especially of products singled out for a detailed critique. As a matter of fact, one school of thought holds that if you cannot honestly recommend the product, don't even grant it the dignity of a review. Unfortunately such logic leaves me, as a consumer, to wade through the morass of the market place armed with little else than "buyer beware" attentiveness. I must only hope to have sufficient money, time, and luck to select the good products. Personally I value the approach and format of *Consumer Reports* and rely upon this publication when selecting a number of products. Too bad that we have nothing comparable in the woodworking field.

The American Association of Woodturners is in an advantageous position in that we don't rely heavily upon advertising dollars to run the presses. As a matter of fact, we are limited in how much space is given in the journal to advertising if we wish to keep our non-profit mailing status. It could be that associations and local chapters or turning clubs are reasonably independent sources to evaluate and comment on products, books, and videos. Such groups are very seldom "wired-in" to manufacturers and therefore do not have an inherent conflict of interest in providing honest reviews. In pursuing such a course we must seek reviewers who do not have an ax to grind (such as having been burnt by the product or its distributors) and who will be fair minded.

As readers of reviews, what should we expect of a review? We should demand that a positive or negative review be backed up with evidence and reason--based on as much factual information as possible. There should be no personal attacks aimed at the company or individual offering the product. Criticisms should be constructive, perhaps offering suggestions for improvement. In cases of a negative review, the producer of the item should be given the opportunity for a rebuttal in the following issue of the journal.

We should also expect to find in product reviews specific feedback on judging the item on its own terms. For instance if the product is an instructional video, does it clearly communicate and teach the process? If a book is aimed at the beginning turner, does the content measure up to the claim? If a chuck is supposed to hold work from 2 to 6 inches in diameter, how well does it perform on the extremes of those dimensions? If touted as a salad bowl finish, how well does the finish hold up after repeated washings?

Anyone who reads a review should know that the conclusions in the review are only one person's opinion. We must require, however, that the opinion not be arbitrary. Reading a product review in a critical manner allows us to reasonably weigh the reviewer's opinions before purchasing an item. The reviewer is hardly the final judge of a product--only someone who potentially contributes to your decision-making process.

What course of action should we as an association pursue? Is the risk of legal action sufficient to hold us only to favorable reviews? Do you want to hear about products that can't be recommended by a reviewer? Could we try some creative approaches, such as team reviews (a Siskel and Ebert approach) and hear the team's reasons for not agreeing if and when that occurs? Or perhaps we should use a rating system that some computer publications use--give a product a "1- to 5-Skew rating?" In the next few months we must make decisions concerning such questions. We would value your comments on this important issue.

RECORD CORONET LATHE RAFFLE

Hurry, you can still buy a raffle ticket or two or ten!

Record Power Company of Canada donated a Coronet CL3 lathe, and the drawing for this lathe will take place the evening of the symposium banquet in Purchase, New York, June 26, 1993.

Send $5 for one or $20 for five tickets to the address below. You will be sent one-half of each ticket purchased, acknowledging receipt of your entry. Your name will be put on the other half of the ticket which will then be put into the drawing box.

The Minnesota Woodturners Association, a local chapter of AAW, will help coordinate the raffle. Funds generated from the raffle will be used to pay for international demonstrators at the national symposium.

Send your raffle ticket order to:

AAW Lathe Raffle
667 Harriet Ave.
Shoreview, MN 55126

Make checks payable to the American Association of Woodturners (AAW).

Vol. 8. No. 2 $5.00 June 1993

AMERICAN WOODTURNER
is published quarterly by the
American Association of Woodturners
667 Harriet Avenue
St. Paul, MN 55126.
Second-class postage paid at St Paul, MN
and additional mailing offices.

POSTMASTER: Send address changes
to AMERICAN WOODTURNERS,
667 Harriet Avenue
Shoreview, MN 55126

Contents

On the Cover

Ash and cherry candle sticks. These evolved from my experience at the Saskatoon symposium in Canada in 1992. Each piece involves using two sets of centers and are the most enjoyable turned pieces I've turned to date. Mark Sfirri, New Hope, Pennsylvania. Photo by Randy Bye, 1992.

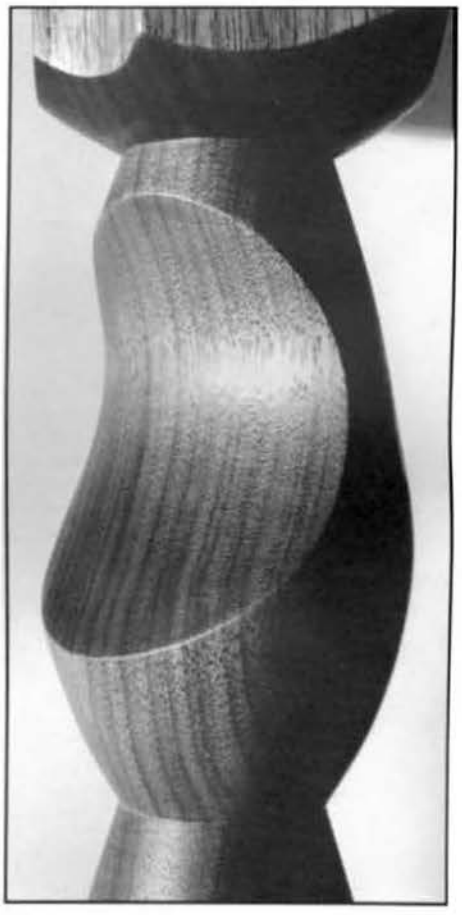
American Woodturner is published quarterly, March, June, September, and December, by the American Association of Woodturners. Yearly membership in the American Association of Woodturners is $25 U.S.A., $30 Canada, and $40 overseas and includes a subscription to *American Woodturner*. Send dues to Mary Redig, AAW Administrator, 667 Harriet Avenue, Shoreview, MN 55126, U.S.A. Send articles and advertising to the Editor. Printed by Western Newspaper Publishing Co., Indianapolis, Indiana, U.S.A.

THE SIMPLE TURNED TABLE LEG AND A VARIATION

Mark Sfirri

Mark Sfirri, 1992, walnut and wenge table, 30" h. x 20" w. x 50" l.

detail of the walnut table leg



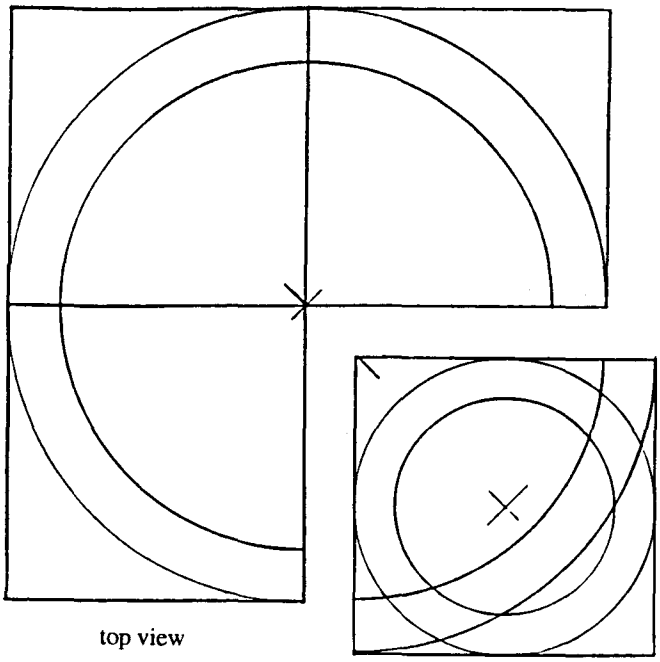
A common use of a turned part in furniture is the simple tapered leg. Generally this part is made by carefully milling a piece of wood to a square dimension, cutting it to length, then turning it between centers (spindle turning). The mortises can be cut either before or after the turning.

If the joinery is done before the turning, you have to be careful not to fracture the short grain above the mortise when tightening the piece between centers. A solution to this is to leave the leg long at the top and trim it after the turning is complete. A disadvantage to this method is that there is no room for error. The relationship of rail to leg is set, and if there are any errors in establishing the top turned section of the leg this variation will be evident when looking from leg to leg. The larger the table, the more tolerance you gain because the legs are further apart, and it's more difficult to pick up any variation visually. But if the goal is to duplicate four legs exactly, making several practice pieces or extra legs is advisable.

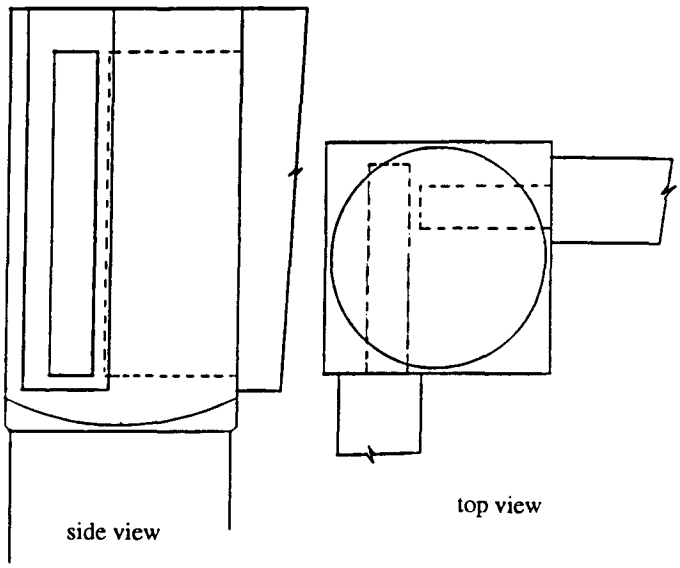
A completely different approach is to make all the legs somewhat different on purpose, which makes exactness less of an issue. One caution here is that if the legs are close to being the same, the variations may be interpreted as mistakes. They should be identical or different enough that the intention is obvious.

The other option is to cut the mortises after turning the legs. This allows the bottom of the joint to be set according to the top of the turned section and requires that the leg be laid out about an inch longer than its final dimension. The excess length can be cut off after the turning is complete. There are two disadvantages with this method. The size of the block at the top is the only part to reference from and to hold onto when trimming the length and cutting the mortise. If the rail is narrow (2 to 3 inches) cutting the mortise beforehand is advisable. If the rail is wide (4 or more inches), cutting the mortise after the turning process makes sense since it allows you a little leeway in turning the square block from square to round.

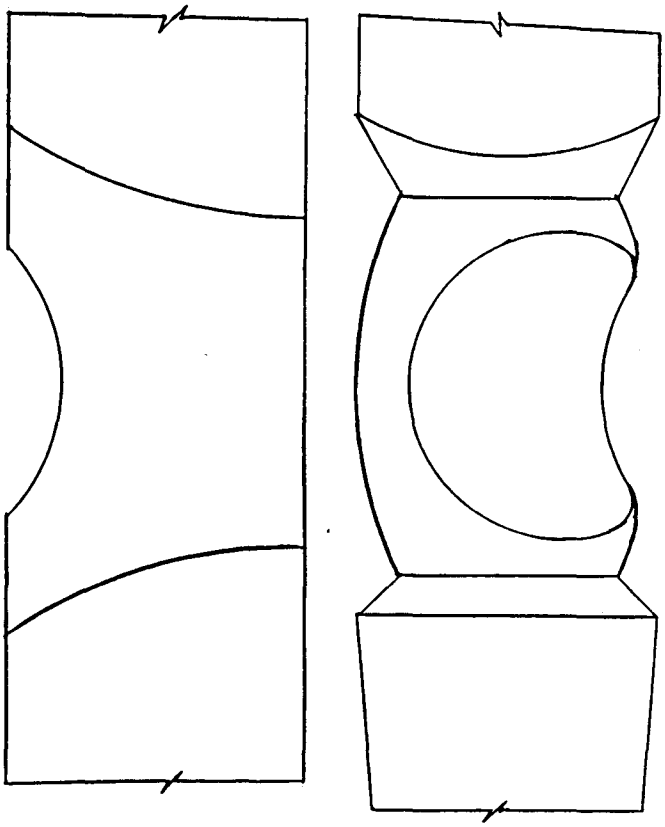
With either method, place the top of the leg at the headstock end of the lathe. Since this is the drive end, and a leg is usually larger at the top than at the bottom, there is less chance for vibration.



Plan view of initial turning and secondary turning. Circles depict range of turned diameters

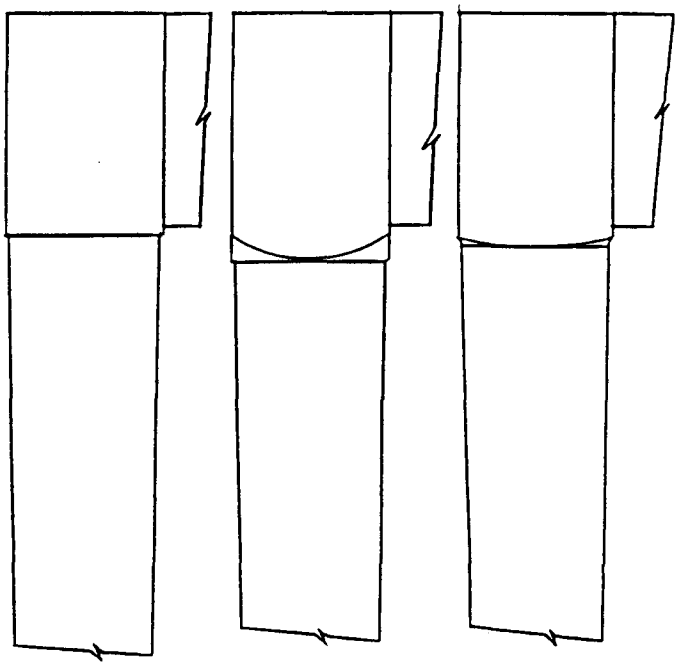


plan and elevation drawings of typical joinery



initial turning profile

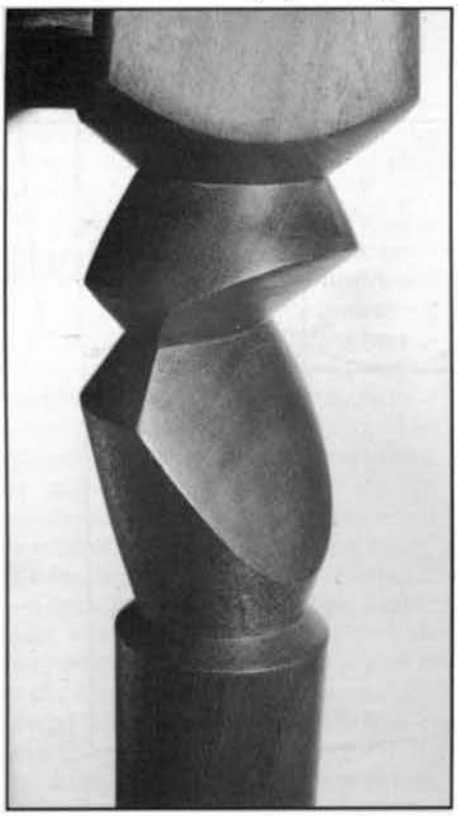
final turning profile



various pommel cuts

Mark Sfirri, 1992, wenge and mahogany hall table 33" h. x 14" w. x 54" l.

detail of the mahogany table leg



The first part of the turning involves making a cut that transforms the leg from square (the pommel) to round . Depending on the angle of the tool to the piece, the line at the bottom of the square, unturned section can appear as a straight horizontal line, giving a clean break from square to round or it can have a slight curve to a half-round curve. The straight line is more difficult to cut cleanly. The curved line creates a more gradual transition.

The first part of this cut requires removing the wood at the four corners of the turning blank. The tool tends to be pushed away as it bounces off the square stock and must be held firmly in order to obtain the smoothest surface. Continue the cut until the leg is round below the joint section. If the wood were absolutely perfectly centered, the diameter would be the same as the thickness of the block. Since there is a good possibility that at least one of the legs might not be perfectly centered, I ususally make this diameter 1/8 inch to 1/4 inch smaller than the block at the top. It should not be much smaller than that because the leg would be weakened. The continuity of the grain from the square block above would be interrupted and the wood below the mortise would be unsupported, creating the possibility of breakage at the joint.

Once the transition is complete the leg can be tapered down to one inch at the bottom or smaller if the scale of the table permits. At the very bottom the leg should have a small chamfer or radius so that the wood does not chip out when the table is moved across the floor. This creates the simple, turned, tapered table leg.

Embellishments like coves and beads can be added for ornament but the basic tapered shape should not be interfered with too much or the leg will be weakened. Adding a bead helps give the leg detail. Ordinarily you should not allow details to break up the leg visually into equal parts. In other words, don't put one bead right in the middle of the leg. Place it above center or toward the bottom of the

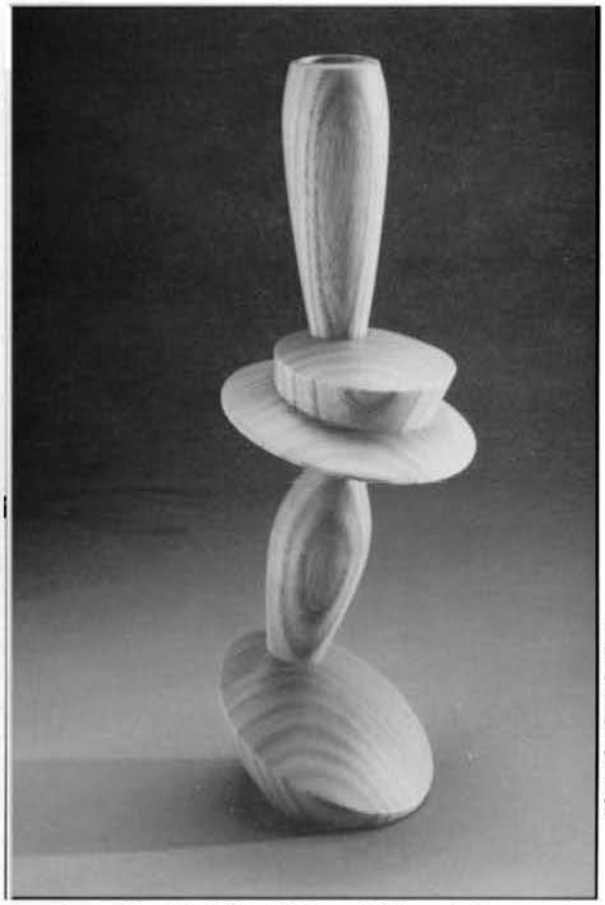


photo by Randy Bye

ash candlestick, 1992 3" dia. x 10" h. spindle turned using two sets of centers

photo by Randy Bye

walnut candlestick, 1992 4" dia. x 15" h. spindle turned using two sets of centers

leg. If using two beads, don't break the leg visually into three equal parts. These are considerations of design. Clearly the structure of a leg or joint is not affected by detailing at regular or irregular intervals.

A departure from the basic tapered table leg incorporates split turning. If before doing all of the above, one were to glue up the four legs with paper in between, the legs could have an initial contour turned into them with centers on the inside corners. The glued piece could then be split apart and re-turned on the four individual centers. By contrasting convex shapes to the initial concave-turned area, an interesting result is achieved.

I usually use brown wrapping paper in between the pieces in the initial gluing. Spread the glue over all wood surfaces to be joined. Don't put glue on the paper as the paper generally curls up and makes a mess. It is also important that all of the inside surfaces be absolutely square. Do not skimp on the number of clamps you use because all of the joints must be tight.

After the first turning, split the four pieces apart. I start by placing a chisel at one end on the glue joint and hitting it several times with a mallet. Then replace the chisel with a wooden wedge. Flip the legs end for end and follow the same procedure. One other hint is to tie rope or string loosely around the turning at both ends. When the wood finally splits apart, the wedges and string prevent the wood from flying apart while chisels are falling. I learned all of this the hard way.

The possibilities of the initial turning are limited by what can be accomplished in the secondary turning. It is those limitations that excite me the most. Both the first and second turnings are very stable and do not involve imbalances that are common with off-center turnings. You also benefit by getting four identical pieces from the first turning.

This form is simple and pure, but was only realized after a lot of experimentation. One of the keys in the development of this shape was the creation of two turned contours that have sharp lines of definition when combined. Two planes that meet square to one another can be a lot crisper than two that meet at an oblique angle. This applies to any shaping, bas relief carving, or carving in general. Combining split turning with individual turning can be thought of as another method of carving.

Mark Sfirri teaches furniture design and turning at Bucks County Community College in Newtown, Pennsylvania. He also makes furniture and turned objects in his studio in New Hope, Pennsylvania.

UNINTENTIONAL FURNITURE

Glenn Elvig

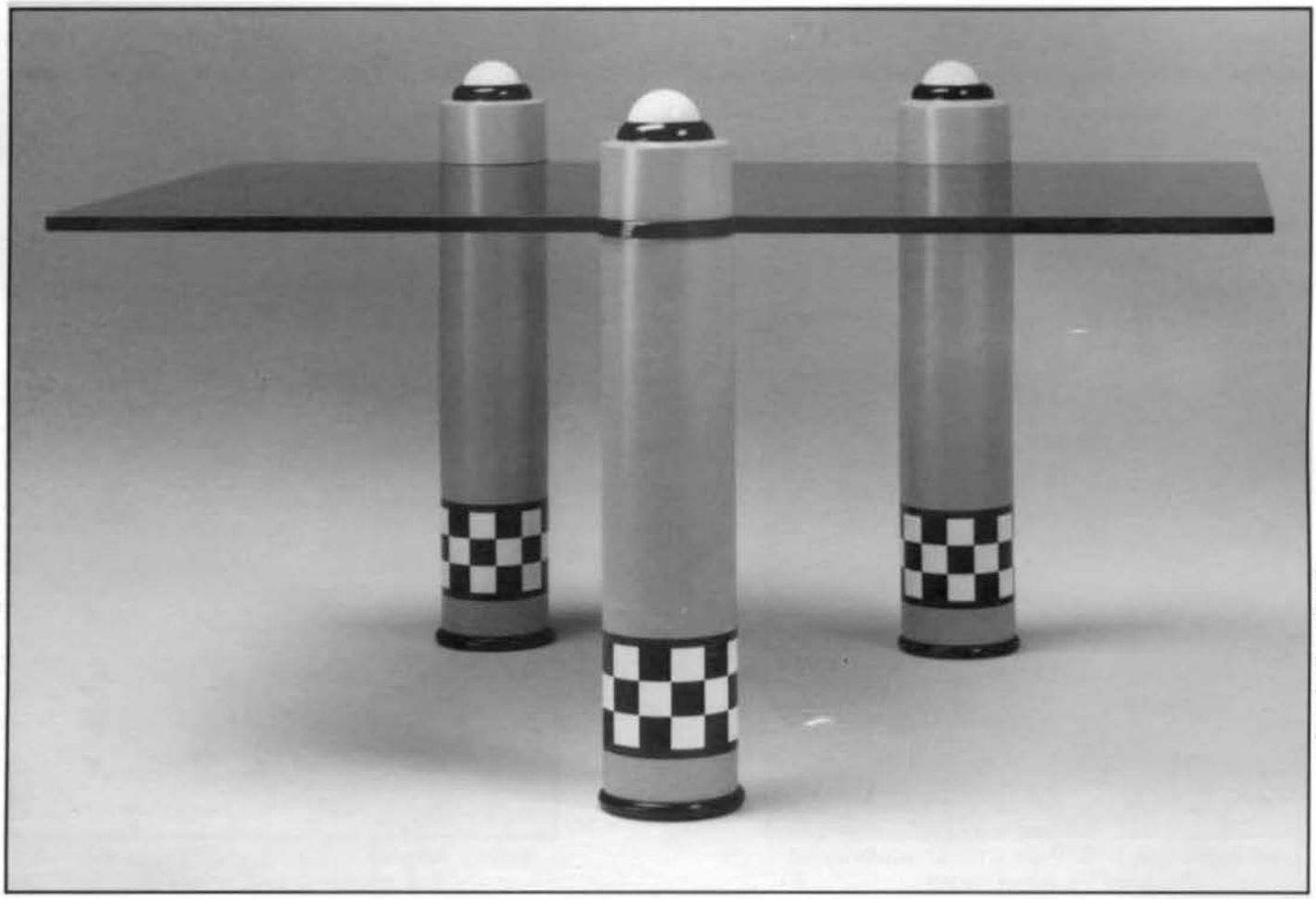


photo by Paul Crosby

Glenn S. Elvig © 1992, "Waiter Would You Call Our Table a Cab?" lathe-turned legs with a glass top

I find life pretty amazing most of the time. Of all the areas in the art field to work in--I end up making furniture. It certainly was not intentional. I had thought there were way too many rules and *accepted* ways of doing things in furniture making. *And*, after carving my Boy Scout neckerchief slide, I never wanted to work with wood again.

I had always hoped to study art at Cranbrook in Detroit. As high school came along I thought, "no, maybe art school is too narrow and restricting." Next came thoughts of architecture school. My first drafting class nipped that idea in the bud--too defined and restricting. OK. How about graphic design? No, too many art directors, technical requirements, and once again, restrictions. Enter college. Sweat out the draft lottery--*very* defined and restricting!

Drop out of college to become a potter. A fellow potter friend said "to be a successful production potter, you'll have to be able to make (and enjoy it) 100 mugs a day. I got up to 83. *Too much production!* Back to college.

Ah! How about teaching art--that's like doing art. Wrong. Potty patrol, too many students, too many rules and restrictions. Boy, life is getting confusing.

Last teaching job, enter Donny Bryant, a junior at Worland high school, Worland, Wyoming. I was inspired by this kid's work--cool stuff--in wood! Hey, Donny, I want to do that.

Chapter 2: The Wood Stuff. I opened my studio in 1978. People would say, "Wood, eh? Do you make furniture?"

"Gee, no. Too many rules, restrictions, and *acceptable* ways of doing things.

"What do you do then?"

"Oh, sculpture and stuff on the lathe."

"Lathe, eh? You make bowls?"

"No. Reminds me too much of the 83 mugs . . ."

So I continued to do my sculpture and stuff on the lathe. No furniture or bowls. I was inspired and undaunted! I could set my own boundries. On to Chicago, New York, London, Paris--the world was my oyster!

Chapter 3: 1992. A chance to show my work in New York City in a special section of the International Contemporary Furniture Fair. Great!! One month later a phone call: "Not enough artists, Glenn. If you still want to show, you'll be in the furniture section. It might be good to make some furniture."

photo by Paul Crosby

Glenn S. Elvig © 1992, "Louie, That's Your Cue!" lathe-turned columns

But... But... I don't make furniture! Too many rules and restrictions!

Chapter 4: The Furniture Months. Yes, I make furniture now and am having a blast. And using the lathe too! And breaking some rules and having a blast with that too! Stools, tables, beds... I've even had to learn how to spell those great French words like armoire, settee, foyer, and easy chair. And I'm getting away with breaking some rules too!

Ironically, I've even been inspired to create some new rules for the furniture industry:

1) Table tops don't have to be smooth--they can be rough. Smooth isn't necessarily a functional characteristic--it is a marketing tool used by 3M to sell its finer grits of sandpaper.

2) Wood can be--and many times should be--painted.

3) Chairs don't have to have four legs. In fact, three legs are easier to ground.

4) Chairs and stools are infinitely more comfortable to sit on if the seat area is facing skyward.

5) Spindles don't have to have many beads and coves. They can simply be one long bead with a through cove at each end.

6) Chainsaws cut a lot faster with the engines running.

7) Have fun.

8) The lathe is only a tool.

9) Make mistakes.

10) Don't make too many rules!

Glenn Elvig lives in Minneapolis, Minnesota.

FURNITURE GALLERY . . .

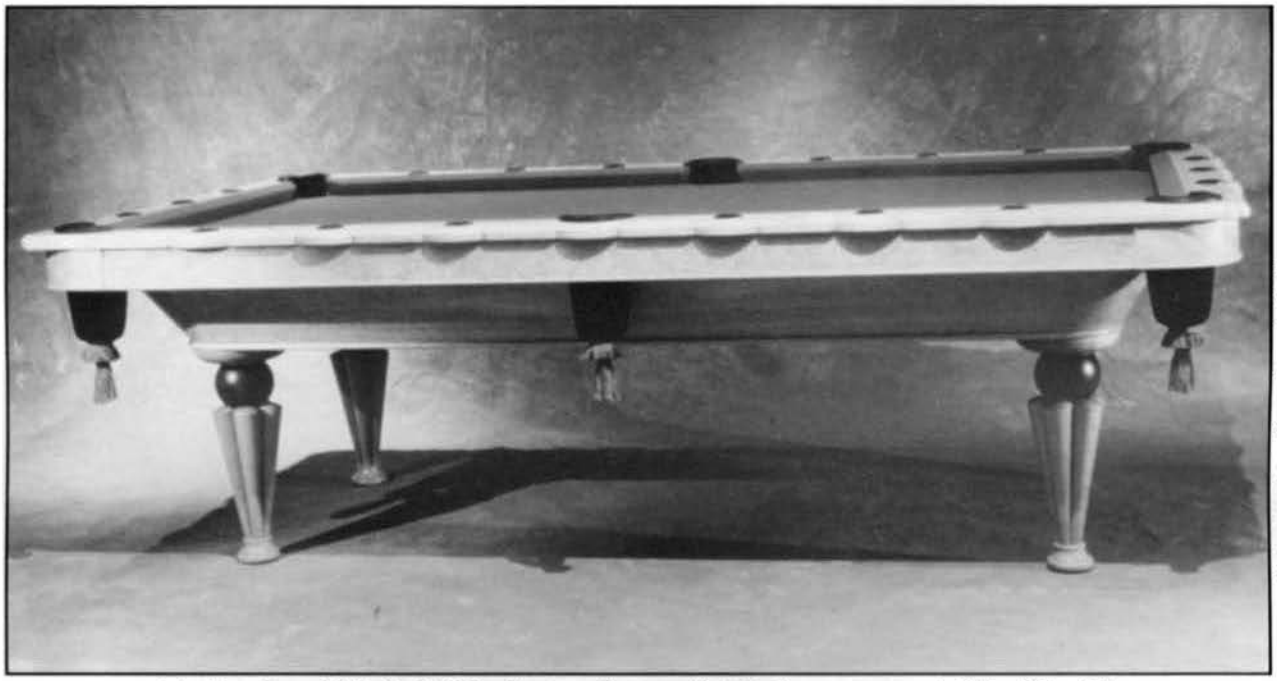


photo courtesy Peter Joseph Gallery

John Dunnigan, 1991, Pool Table, cherry, mahogany, slate, leather, rayon, wool 31" x 55" x 99"

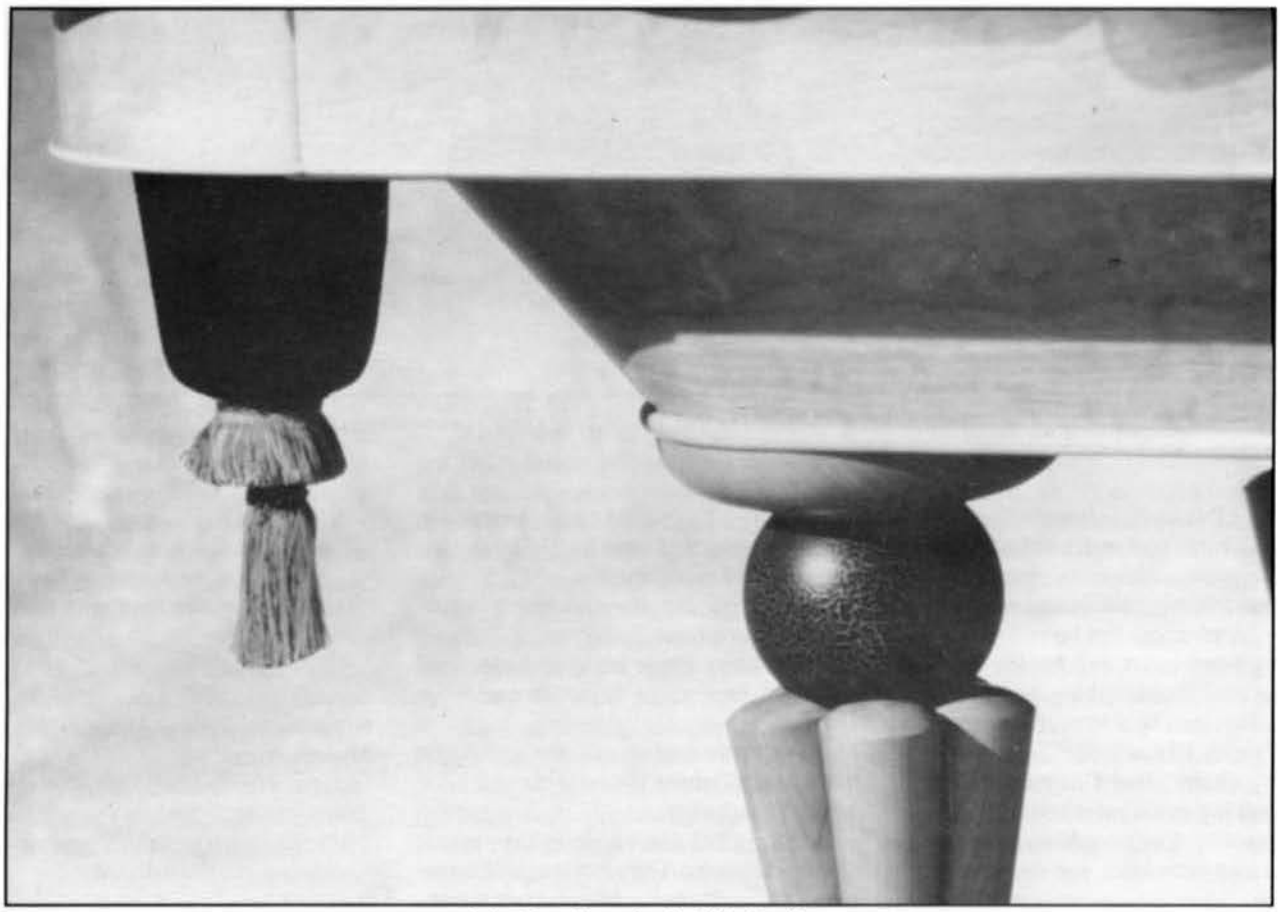


photo courtesy Peter Joseph Gallery

John Dunnigan, Pool Table detail

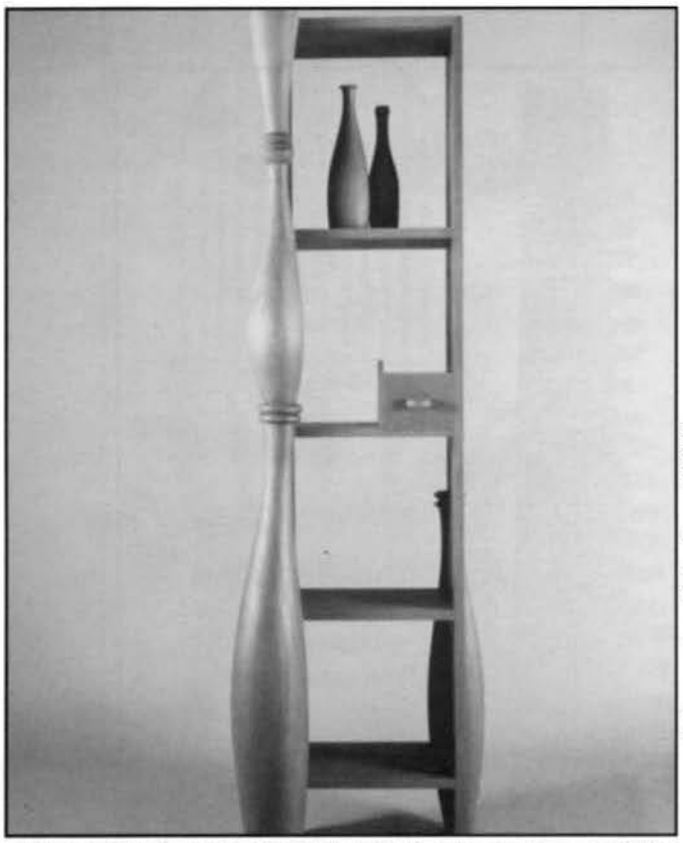


photo courtesy Peter Joseph Gallery

Alphonse Mattla, 1993, Bottle Bookshelf, stained mahogany, 80" x 20" x 23"

photo courtesy Peter Joseph Gallery

Wendell Castle, 1989/90, #2556 Cone Clock, cherry, bubinga, cast bronze, brass, mini quartz movement, 23" x 6 1/2"

photo courtesy of Saskatchewan Craft Council

Table With Legs, 1992, 18" x 38", poplar, birch, walnut, co-created by Michael Hosaluk, Jason Russell, Giles Gilson, Jamie Russell, Mark Salusbury, Richard Raffan, Laura Hosaluk. Collection of Bev and Grant Kernan

FURNITURE GALLERY . . .

photo by Gregg Krogstad

Glenn S. Elvig, © 1992, "Lawn Chair," lathe-turned seat details

Stephen Mines, King Windsor Arm Chair, oak

Stephen Mines, Windsor Side Chair, oak

"Chicken Foot," 1992, Andy Kernan, Chelsey Franson, Mark Sfirri, Laura Hosaluk, 18" h. mahogany, birch, walnut

photo courtesy Saskatchewan Craft Council

Judd Mosser, 1992, "Duet," white ash, turned and carved pedestal, one piece of wood, glass top, 28" h. x 9" dia.

EXHIBIT REVIEW

Heather Sealy Lineberry

Redefining the Lathe-Turned Object: A National Juried Exhibition, December 13, 1992 - January 31, 1993. University Art Museum, Arizona State University

This winter the University Art Museum, Arizona State University, mounted the first in what promises to be a biennial series of national juried exhibitions featuring current directions in lathe-turning. "Redefining the Lathe-Turned Object" included the work of thirty five artists and drew an audience of over seven thousand. The exhibition and the accompanying symposium signifies the University Art Museum's growing commitment to the field. In 1990 the Museum was given the Jacobson Collection, an internationally exhibited collection of turned-wood bowls, creating an immediate strength in lathe-turned objects. "Redefining the Lathe-Turned Object" also attests to the broad-based support and interest of the Arizona public. The project was co-sponsored by the Museum, the university's School of Art, and the Arizona Woodturners Association.

The exhibition prospectus called for entries that spanned the current diversity of the field, from traditional vessels to the innovative use of the lathe to purely sculptural works. The two jurors, collector Edward Jacobson and artist Frank Cummings, brought to the jurying process different sensibilities and outlooks. While viewing over four hundred slides, the jurors weighed and discussed the meaning of the exhibition title. In his juror's statement, Frank Cummings wrote:

> Among the hundreds of images that flashed on the screen, I was pleased to see objects that appeared to be more about content, shape, and form than they were about process and material.... This is not another crafts show nor woodworking exhibition nor just another turned objects show. This is an exhibition of individuals who have something to say about their thoughts, hopes, ideas, and dreams.

The fifty three works chosen for the exhibition ranged from the classical proportions of William Weber's maple platter to Todd Hoyer's striking turned and stained palm sculpture, "Winged Series--Suspended Column Variation." Much of the work reflected a shift in approach, using the lathe as one step in the creative process or using it to create sculpture. Many of the artists began with vessels and containers, but counteracted or altered these forms with surface or structural decoration. For example, the monumental shapes of Philip Moulthrop's two white pine mosaic bowls play second fiddle to the bold surface texture. Moulthrop carefully turns an epoxy matrix filled with pine nodes, a process that takes three to five times longer than his regular pieces. One of Moulthrop's bowls received the College of Fine Arts Award in the exhibition and was purchased by the University Art Museum.

Another artist in the exhibition who began with a vessel-like form was Anna Jurinich, whose painted boxes are actually turned by her husband Fallai Giampolo. These small, basic boxes are completely covered by Jurinich's acrylic and ink paintings. "Secret Boxes (#2 Cloth)" is painted in a trompe l'oeil fashion to resemble cloth bound with string, while her other two pieces in the exhibition were covered with figurative scenes. Michael Peterson's two bleached and sandblasted pieces, "Waterstone" and "Landscape Series 2," have flowing surfaces that resemble a dune-filled desert. An entirely different sandblasted effect is achieved by Hugh McKay. His piece, "Squared," is sandblasted, inlaid, and further carved with detail to evoke a medieval city with forts and towers.

Several artists in the exhibition were inspired by basket forms. Ray Allen's segmented wood vessel "The Eagle" and Lincoln Seitzman's "Pima Basket Illusion" and "Shoshonean Basket Illusion" were directly influenced by Native American baskets. William Hunter's cocobolo "Retusa Basket" is a more abstract interpretation of a basket form. Its graceful walls open like flower petals to reveal the interior. "Retusa Basket" won the Juror's Award.

Among the sculptural work was Christian Burchard's "The Sacred Boat," a collection of stilts supporting a delicate madrone burl boat. Joni Kost painted and studded her staff and ball forms with tacks, ball bearings, glass, and lead to resemble ancient ceremonial staffs. "Along the Edge," one of two geod forms by Robyn Horn, was turned from madrone burl and dynamically pierced by rods of ebony. Dennis Mueller achieved a quiet monumentality with his trunk-like form of spalted maple titled "Infested Vestibule."

Todd Hoyer won the Woodworker's Source Award for his piece mentioned above, and John Jordan won the School of Art Award for "Textured Jar."

A symposium accompanied the opening of the exhibition. Frank Cummings and Giles Gilson were featured in an interactive workshop on design.

The Museum is now gearing up for the next "Redefining the Lathe-Turned Object," slated for late 1994. For over twenty years the Museum has championed craft through exhibitions and collections, and the lathe-turning field promises exciting developments in the coming years. This exhibition is part of the activity, and as Frank Cummings wrote, it will become "a platform from which (artists) speak."

The University Art Museum would like to thank the co-sponsors of the exhibition and the project's steering committee--Jack Aarsvold, Virginia Dotson, and Tom Eckert---for their dedication to this project.

Heather Sealy Linebery, Curator, University Art Museum, lives in Tempe, Arizona.

See photos on the next three pages.

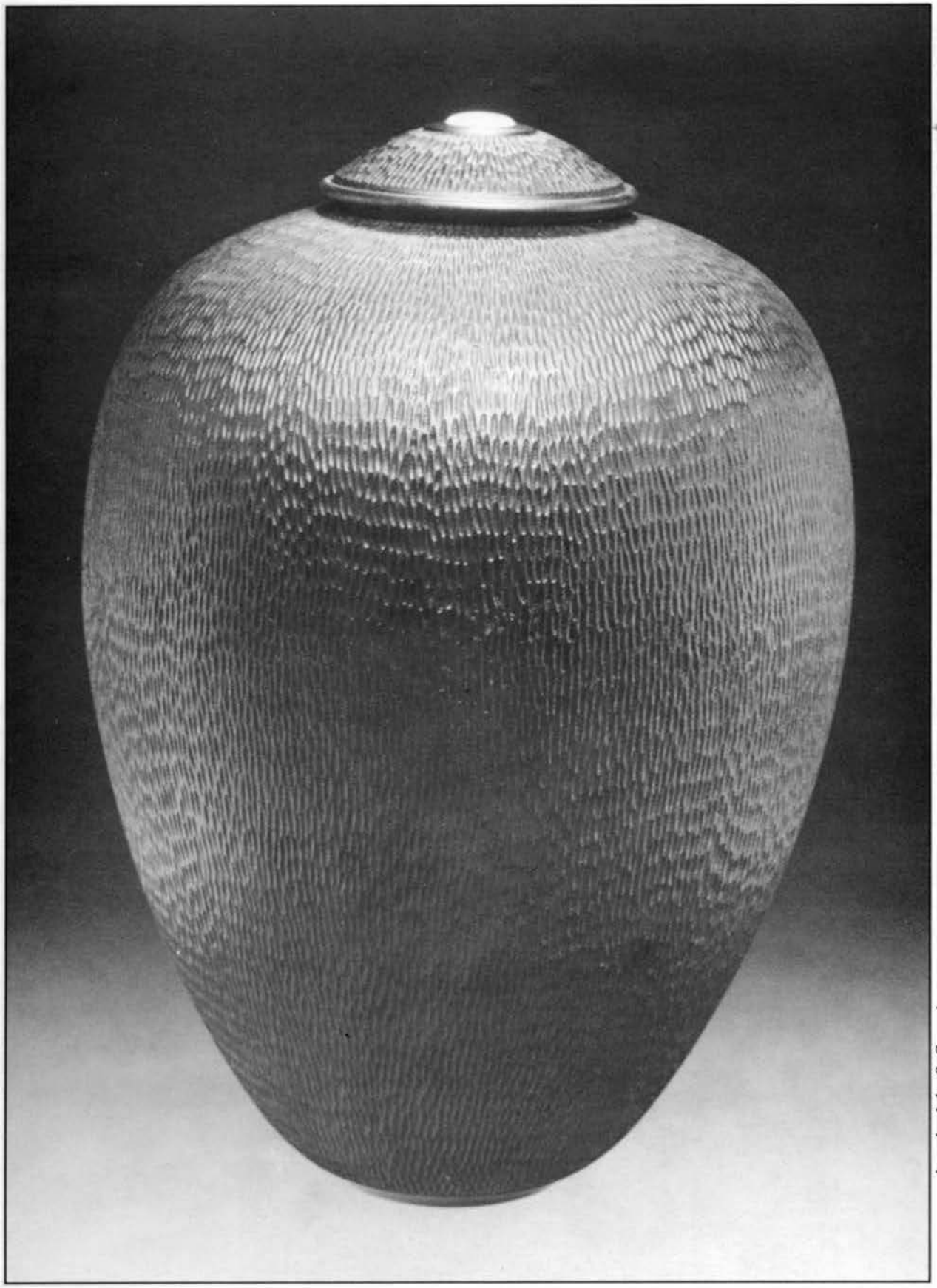
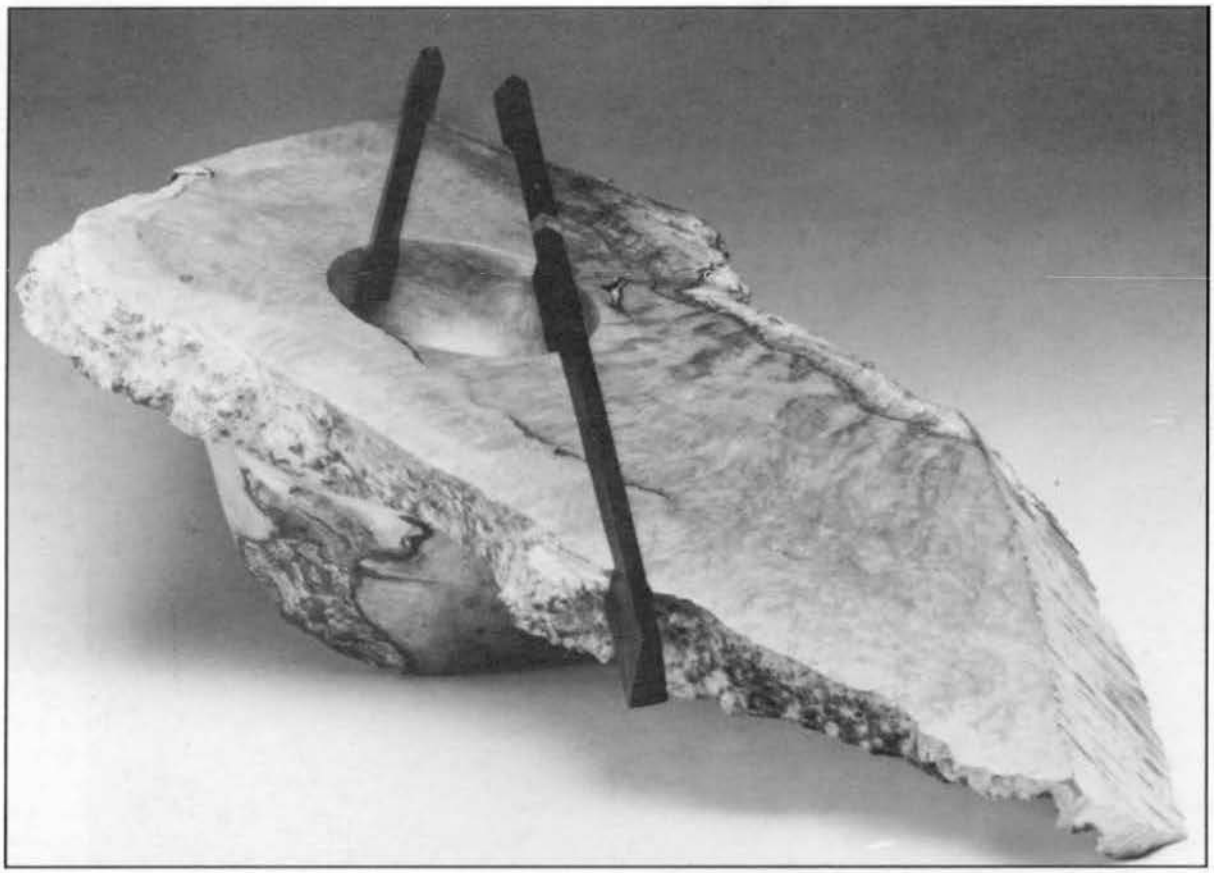


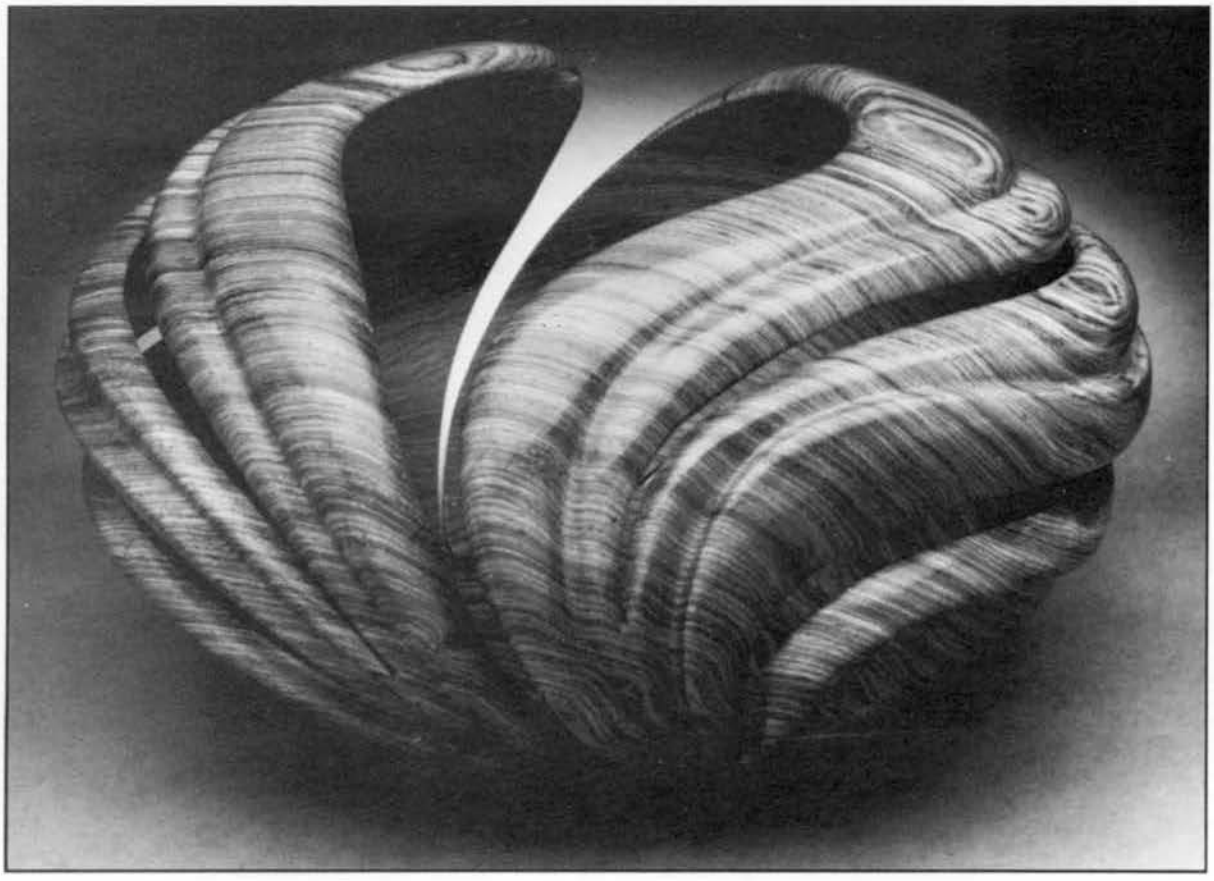
photo by John S. Cummings

John Jordan, 1992, Black Textured Jar, turned, carved, dyed boxelder, fossil ivory inlay, 9" dia. x 11" collection of David Ellsworth. Jurors Award

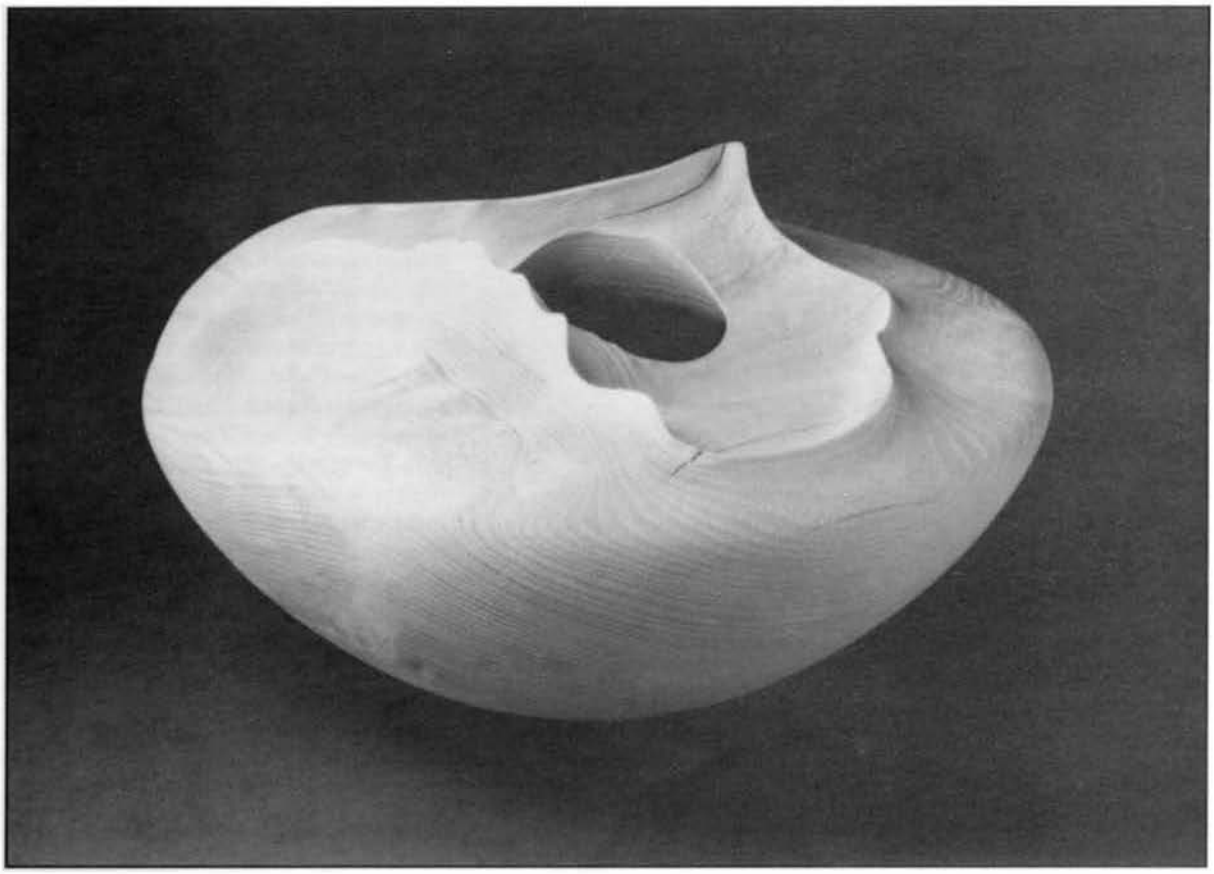
EXHIBIT REVIEW . . .



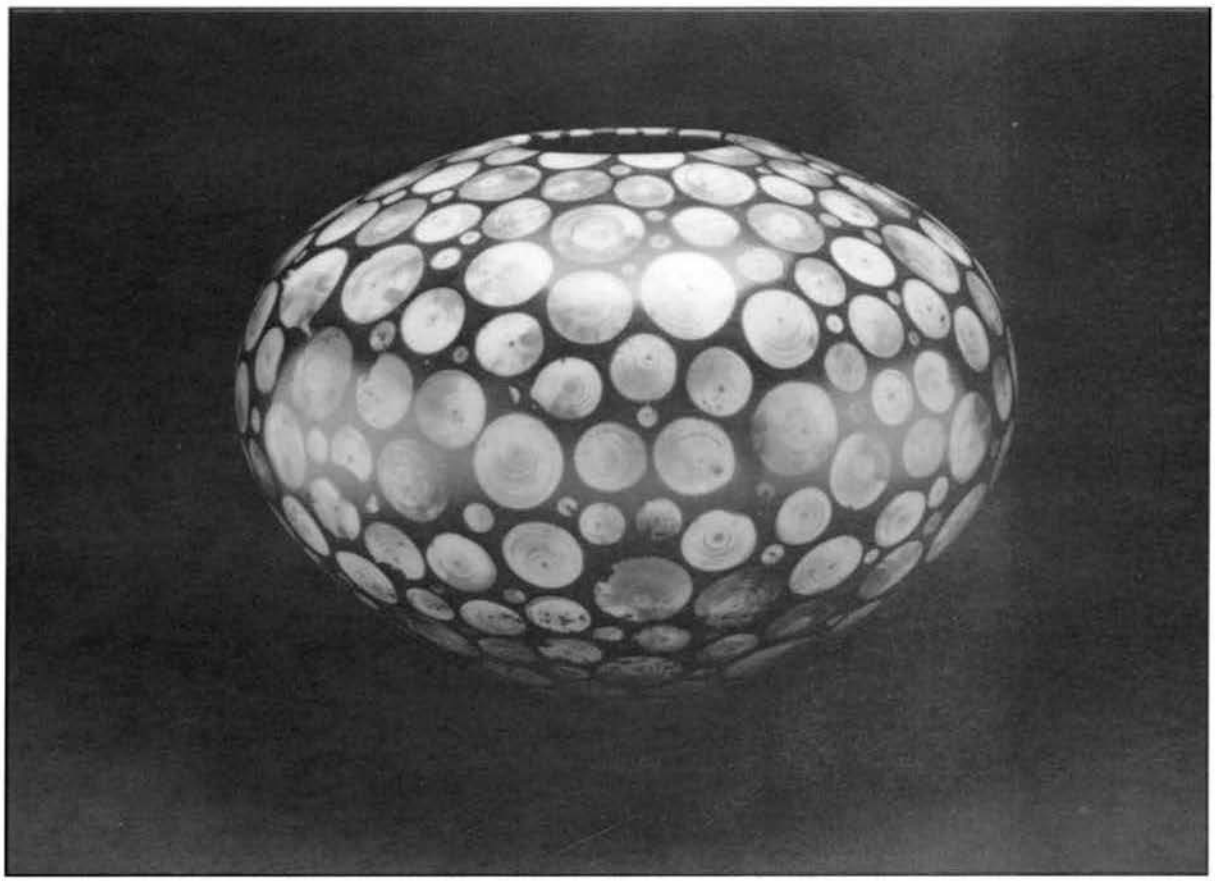
Robyn Horn,
"Along the Edge,"
madrone burl,
ebony



William Hunter,
"Retusa Basket,"
cocobolo, 11" dia.
x 6" h.



Michael Peterson,
"Waterstone,"
10 1/2" dia. x 6" h.



Philip Moulthrop,
"White Pine
Mosaic Bowl,"
turned wood with
epoxy binder

SHAPING THE OUTSIDE OF A VESSEL

Hugh McKay

I remember when I first realized that handles could be part of the design of a turned work. Simply leave a ring of wood standing proud of the surface of the piece and carve away most of that ring. Leave two protrusions on opposite sides. By carefully filing and sanding to blend the previously carved part with the side of the piece, the effect is almost like you had pulled the handles out of the sides of the turning. This soon had me thinking about other ways to decorate the outside of a turned piece.

At first I just shaped the outside of turnings using carving gouges, rasps, and other hand tools. There are peculiar difficulties, however, in dealing with a curved surface, and some of my initial solutions were a little primitive. I became distracted from this woodworking pursuit with other woodworking challenges, and it wasn't until several years ago that I started actively pursuing this idea again. But instead of using hand tools, I wanted to use power tooling to remove most of the wood that need subtraction.

I admire a lot of the work I've seen created with an ornamental lathe, but I knew that the designs I envisioned could be done with a simpler system. I also wanted as much flexibility as possible because my designs would not be symmetrical like those created with an ornamental lathe. After many hours of running ideas through my head and building several prototypes, the system I came up with works fairly well for shaping the outside of a turning. It also makes it easy to control the wall thickness of a vase form. The sides of a vase can be carved without worrying about removing too much wood and going through the side of the piece.

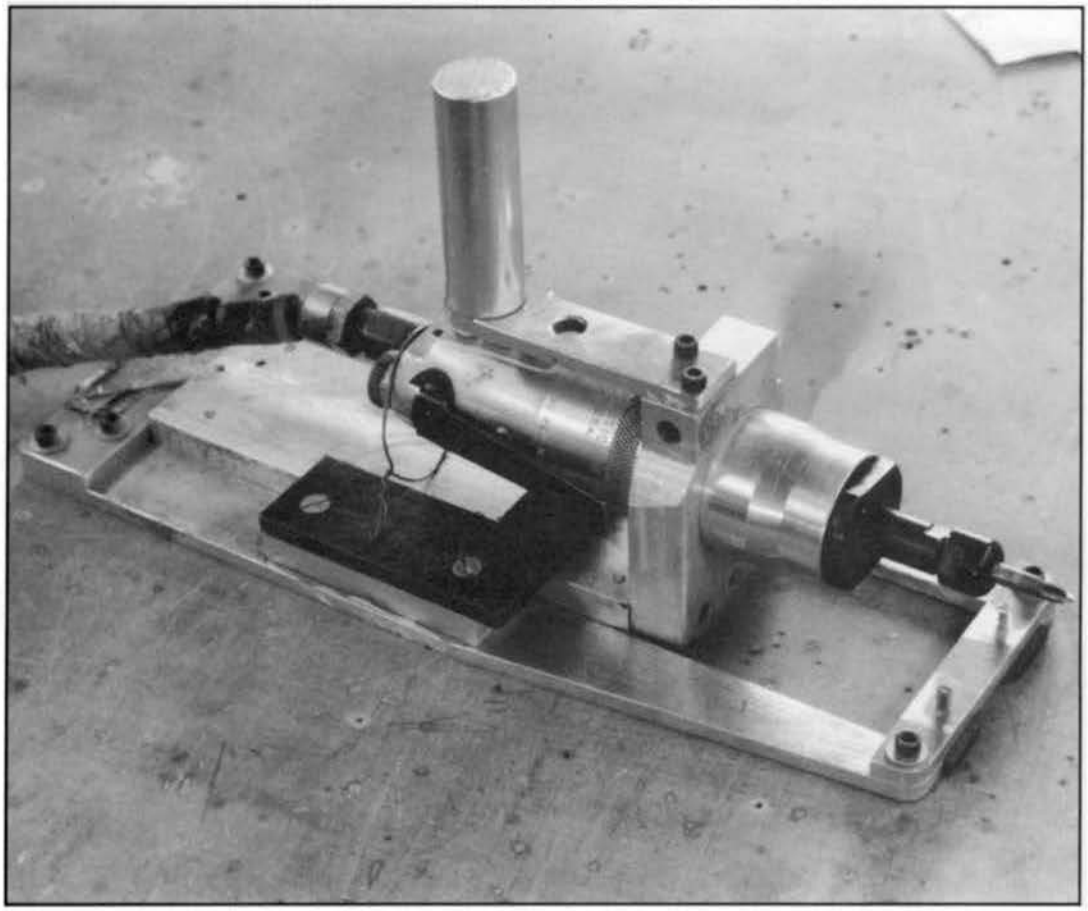
I use a router-type tool and bit held rigidly, yet I am still able to move it back and forth in relationship to the turning's surface. I push the bit into the wood that is to be removed and pull it back to allow some of the wood to remain. I decided to use a large pneumatic die grinder for the power source mainly because it was so much slimmer than any electric counterpart of equivalent power.

I built a jig to hold the die grinder parallel to the surface it would sit on. This whole apparatus then fits into the other part of the system, a platform. The platform holds the die grinder jig snug, yet allows it to be easily positioned.

The photographs should give anyone with average shop skills the necessary information to construct his or her own die-grinder holder. It is made out of aluminum and a type of Teflon plastic for ease of sliding. No doubt someone else could build a better jig, but mine does work.

To position the die-grinder system next to the piece to be carved, I needed a platform with a small amount of vertical movement to align things properly with

shop built jig to hold a die grinder parallel to the platform it rests on



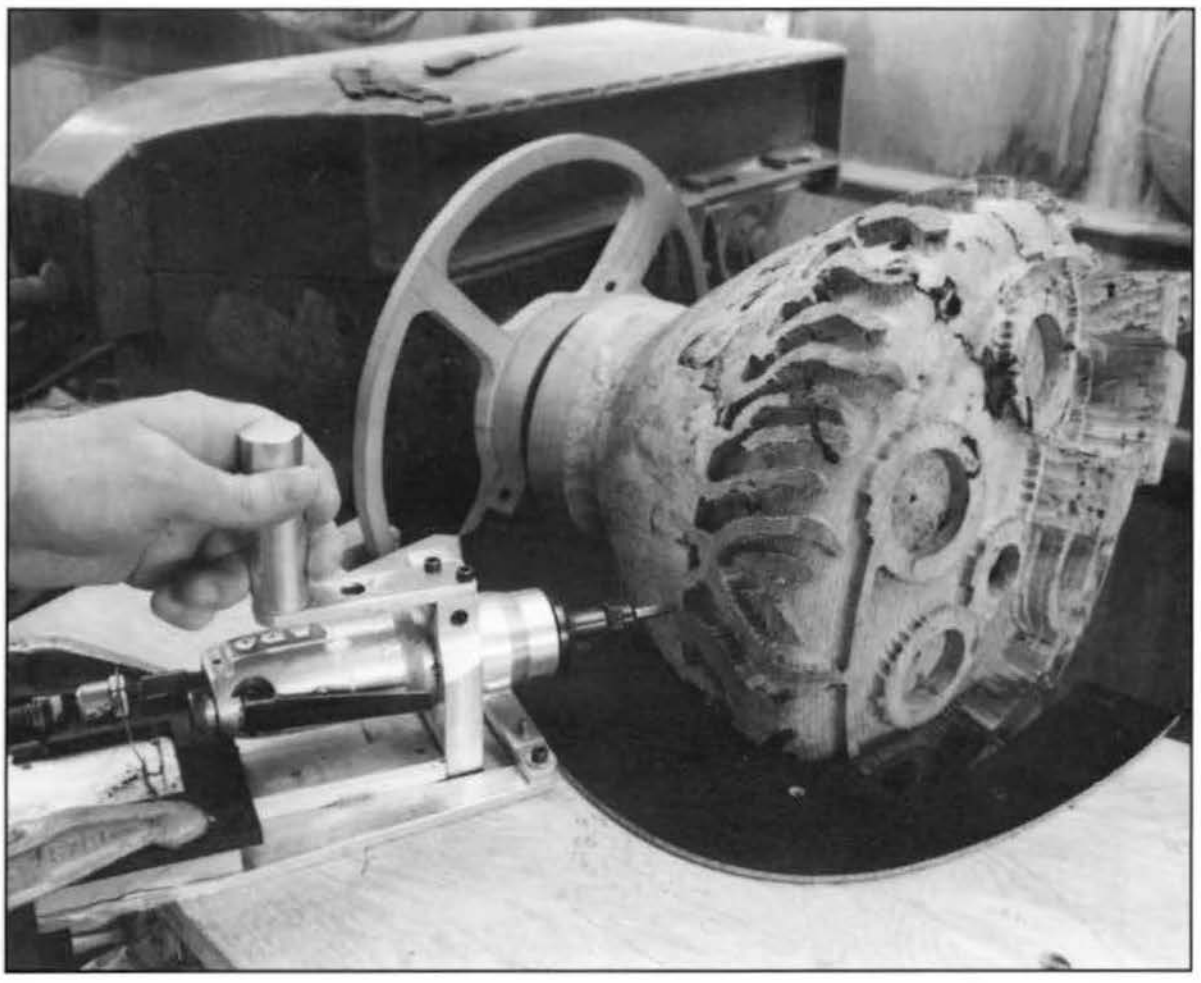
different operations I had in mind. After some head scratching I realized that a built-in platform holder using the lathe's toolrest holder was the answer. I could then keep the turning attached to the lathe and carve away.

After acquiring the correct diameter rod for the post to fit into the toolrest, I welded a steel ring to the post. This ring is a few inches larger in diameter than the post. I then bolted a large rectangular steel plate to that ring. By shimming between the rectangular plate and the welded ring, the platform can be adjusted level to the turning. Even though the system was going to be simple, I still wanted it to be as accurate as possible.

The steel plate has two holes drilled and tapped at opposite ends to allow a

steel platform fits into the lathe's toolrest holder

Note the black Masonite template next tot he work piece. The template aligns the die-grinder jig to control the depth of cut in order to achieve uniform wall thickness.



piece of plywood to be bolted to it. This piece of plywood is the platform surface that the die grinder jig is positioned on. The plywood platform needs to fit close to the turning, so for each different vessel shape I cut the plywood to that approximate shape. The plywood must also be the appropriate width to allow the die grinder jig to fit on it and to be positioned around the turning. The die grinder jig is then clamped to the plywood platform to hold it solid.

To control the depth of cut, I use 1/8-inch Masonite as a template to butt the jig up against. Once again, cut one side of the Masonite to roughly fit the shape of the outside of the turning. Attach it to the top of the plywood platform with two or three screws. Carefully go around the turning, marking equidistant points from the outside of the form to the determined width that the template needs to be. You end up with the template shape the same as the turning's but usually two to four inches larger than the turning's diameter. The template in the photo is painted gloss black and is attached to the platform between the turning and the die grinder.

The type of router bit you select for use in the die grinder will depend on what is needed to be done. I might use a 3/4-inch flat bit if I want a smooth surface or to remove lots of wood. Depending on the detail of the design, 1/8-, 3/16- or 1/4-inch bits could be used. If I want the wood to appear to flow from the turning's surface, I use a round-nose bit. To let the surface design seem slightly separate from the turned form, I use a flat-bottom bit as it leaves a decisive corner.

Now that I have explained the carving system, I will go through the procedure I use to create a finished turning. I attach a piece of wood to the lathe and turn the outside shape. After the profile is what I want, I start the hollowing out process. I carefully remove the wood inside of the turning until the correct wall thickness is reached. This is determined by adding the depth of the finished design to the finished wall thickness. For example, if the carving on the outside is to be 1/2-inch deep and the finished wall thickness 1/4-inch thick, the vase would be hollowed out to a 3/4-inch wall thickness. The vessel is now ready to have the surface design created.

I usually work out a rough design idea on paper before drawing the actual design on the turning. With the piece off the lathe, I sketch the design on the turning's surface using a soft-lead pencil. I spend a lot of design time erasing lines until things look right.

When working out the final design on the turning's surface, I take into consideration the piece of wood itself. The wood's particular grain, soft spots, holes, and other "flaws" must always be worked into the design. Once the drawing process is completed, I mount the piece back onto the lathe and set up the die grinder system.

The design lines on the vessel are visible and dictate where cuts will be made.

Finished piece, "Entitled," 16" dia. x 14" h., maple burl, soapstone, cast pewter

I am ready to do some cutting on the vessel's surface.

Plunge the tool bit into the wood and rotate the vessel by hand to cut away unwanted wood according to the design drawn on the surface. I use a plywood handle attached to the faceplate behind the turned work for ease of rotating the piece by hand. The handle also gives me more control with the router's cut.

This carving technique or slow-speed lathe turning allows for a type of carving that would be very hard to do without using the die-grinder system in conjunction with the lathe. A very deep and/or intricate type of carving can be done, somewhat like laser carvings.

Of course this process does not leave the work finished, as it is a roughing-out step. When finished with the die grinder, I part the turning off the faceplace then start the clean-up work. To finish the piece, I use a small die grinder and rotary mills. Carving tools, rasps, files, and sandpaper are also utilized if needed. Many times I sandblast the piece (see *American Woodturner*, Vol. 6, No. 4).

As I become more concerned with the exterior sculptural elements of my turned pieces, new techniques to shape the outside of the wood vessel occur to me from time to time. With the system just described, however, I can create almost any design I want on a turned form. When I cannot achieve what I envision, I will dream up a new system.

Hugh McKay lives in Gold Beach, Oregon.

YO-YOs: A Fun Project

Dan Ackerman

Remember the Duncan demonstrators that came to your school and put on a phenomenal show? With a yo-yo in each hand going constantly, they would do things you thought only a hummingbird could do! Well, the yo-yo is back. And they are still as much fun.

Yo-yos make great gifts for children, grandchildren, and neighbors' children. I say children, but many adults relate to the yo-yo because they enjoyed them as children. Some time ago I gave a yo-yo to a friend who is an executive, and he reports that when he has a particularly thorny problem to work out, he picks up the yo-yo and walks around his office flipping it until the problem is solved. That simple little wooden thing attached to a string releives stress and helps clarify his thinking.

Yo-yos come in many shapes and sizes and are made of a variety of materials. Plastic is the most common commercial yo-yo material, however, wood was used years ago and for woodturners it is a natural. Wooden yo-yos can be decorated with inlay, chatterwork, colored markers, or by combining different materials. We are limited only by our imagination.

How do yo-yos work? The basic steps are to attach the string to a finger, flip the body of the yo-yo downward, then jerk on the string just as the yo-yo reaches the end of the string. What you are doing is overcoming inertia. The string is a stationary object and the friction of it against the axle of the yo-yo is the inertia that must be overcome by the spinning weight of the wood.

Many of the tricks that can be done with a yo-yo are performed in the sleeper position--when the yo-yo is at the end of the string spinning in the string's loose loop. After accomplishing a trick, simply jerk the string and the yo-yo will climb back up. The heavier the yo-yo the longer it will spin and the more tricks you can do.

Mass and balance are important for a smooth-running yo-yo. Denser woods will perform better. Woods that I have found to be heavy enough are: walnut, olive, cocobolo, rosewood, Osage orange, locust, most fruitwoods, yew, ebony, hard maple, mesquite, and holly. You may have several local hardwoods that would work well.

Balance is accomplished with some care in shaping the two halves of the body. But before shaping, consideration to the wood itself can help. Use wood that is of even density--avoid wood with punky areas and wood that has a mix of sapwood and heartwood.

Steps in making a yo-yo

Start with a piece of smoothly plained wood 1 1/2-inch thick by 2 1/2-inches square. Using a bandsaw, carefully resaw the wood so that you have two pieces, each approximately 3/4-inch thick by 2 1/2-inches square. Reverse the pieces so that the sawed surfaces become the outside surfaces.

Make the drilling jig in figure 1. Place a yo-yo half in the jig then drill a 1/4-inch diameter hole, 3/8- to 7/16-inch deep in the center. Drill a hole in the other half. The holes should be on the inside surfaces and will be the axle holes. It is important that the holes be drilled 90 degrees with the surface of the wood. If they are not, when the axle is glued between the halves, they will not be parallel. After the holes are drilled, cut off the corners using the bandsaw.

Making an on-lathe chuck to hold each half of the yo-yo body is simple and quick. If you are going to make several yo-yos, I suggest that you dedicate a faceplate or center screw to the yo-yo making process. Figure 2 shows the finished chuck. A brief description of the chuck will be helpful.

I started with a piece of 2 5/8-inch diameter by 2-inch thick hard maple for my chuck. Maple is a stable, durable wood. Attach the maple to a faceplate. Turn it to the shape and dimenstions in figure 2. The shoulder on the end serves as a reference diameter for a finished yo-yo half. Drill a 1/4-inch diameter hole in the center of the chuck.

Make a spindle drive from drill rod. Cut a 2-inch long lenght of 1/4-inch diameter drill rod. Shape one end on a grinder to a screwdriver-chisel-type tip, keeping the corners sharp. The purpose of the sharp corners on the spindle drive is to bite into the wood at the bottom of the axle hole to help drive the wood.

Glue the drill rod--your newly created spindle drive--into the hole in the maple using thick cyanoacrylate glue (Hot Stuff). Leave 3/8 of an inch extended out.

Attach a 1/4-inch wide strip of double-faced tape on the edge of the chuck face to help keep the yo-yo half from spinning as the turning is done. Slide the yo-yo blank over your spindle drive and bring up the tailstock, pressing the wood onto the chuck. This will force the spindle drive to "bite" at the bottom of the drilled hole and will make the double-faced tape hold more effectively. (Hint: use only a very thin piece of tape at the edges of the chuck or you will have trouble getting the yo-yo half off of the chuck.) Remove the tailstock.

An important part of the turning process is to get the two sides of the yo-yo to have the same shape. To make this easier, I shaped a piece of high-speed steel bar stock into the curve of the meeting edges of the yo-yo (figure 3), however, making this tool is not necessary for success. Turn the outside of the yo-yo to a pleasing shape and decorate it as you wish with beads, chatterwork, or colored markers. Turn, sand, and finish both halves of the yo-yo.

The finish I like to use is one that will be durable, scratch resistant, and magnifies the beauty of the wood. I've settled on a combination of polyurathane, turpentine, and a small amount of boiled linseed oil to cut the gloss. My proportions are about one third polyurethane, one half turpentine, finishing up the volume with linseed oil. I apply this while the lathe is turning and burnish it dry.

Now you have the two halves ready for assembly. Cut a 7/8-inch long piece of 1/4-inch diameter hardwood dowel and sand it smooth (but don't sand too much). Score the dowel on the ends to allow excess glue to squeeze out when the halves are pressed on the axle. The type of glue you use is important because as the string is spinning on the axle, heat is generated, melting some glues. I use epoxy.

Apply glue, insert the axle, then press the two halves together. I use a wooden vise for control. Leave a 1/8-inch separation between the halves. Be sure the halves end up parallel as you look through the slot. Remove all excess glue.

The type of string you attach is important. An all cotton string works the best. Premade strings are such that all you need to do is loop them over the axle and tighten. Also, they come pre-twisted, and having the correct twist is important. Strings can be purchased where Duncan yo-yos are sold and at some craft and hobby stores.

Now comes the hard part--learning how to do all the tricks that children have mastered with their yo-yos.

Dan Ackerman lives in Bremerton, Washington.

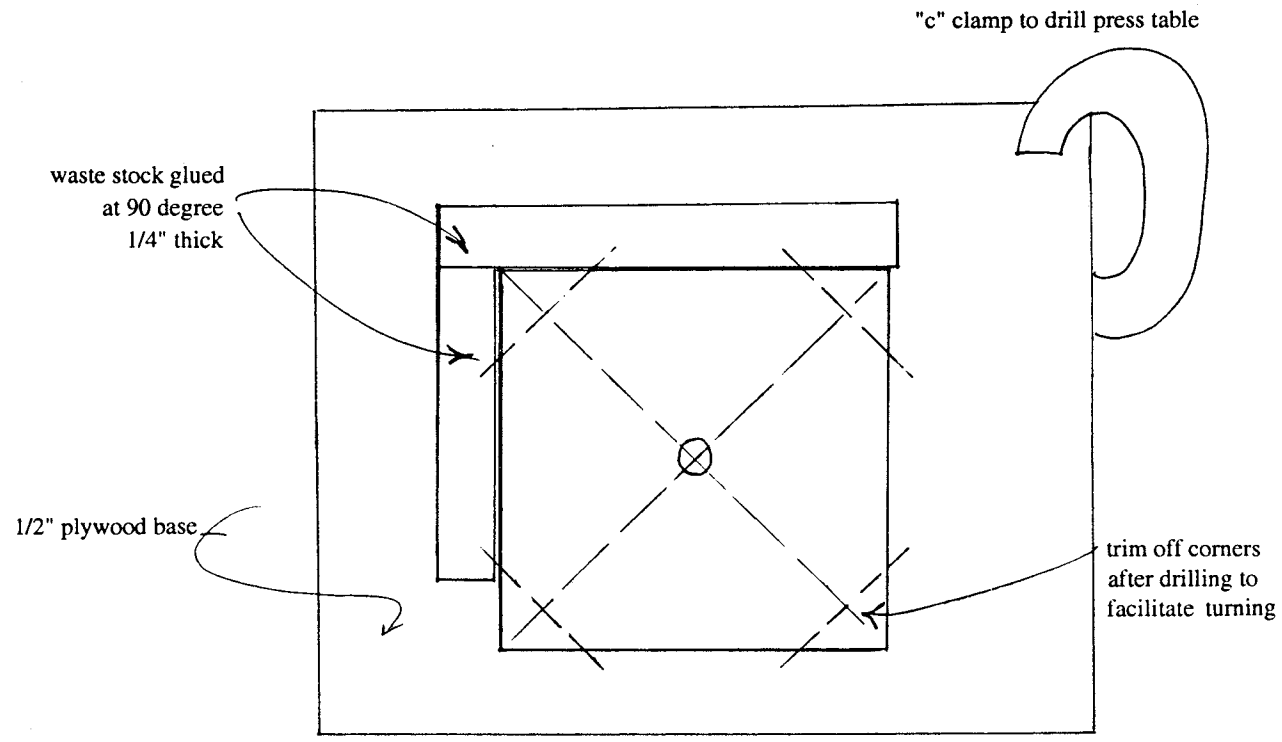


Figure 1 Jig For Drilling Axle Hole

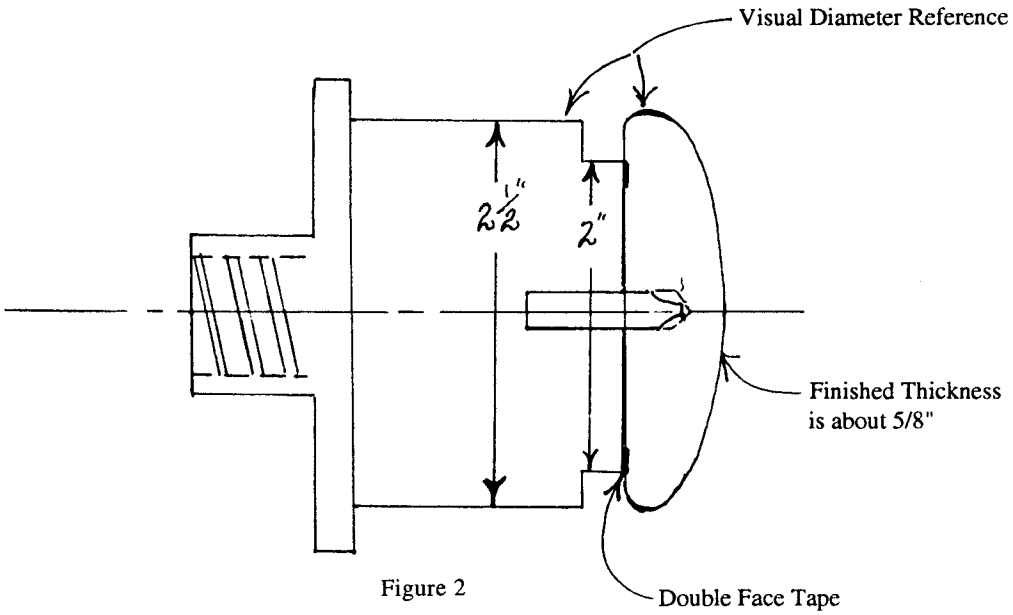


Figure 2

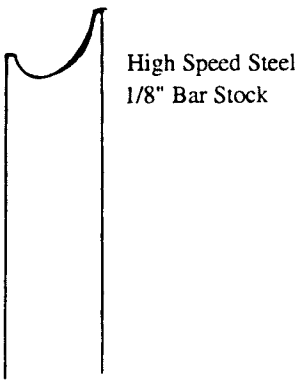


Figure 3

REMOVING THE VIBRATION FROM YOUR LATHE

Sal Marino

Vibration is one of the woodturner's worst enemies. If a lathe is poorly designed or not mounted to a solid base or bench, the result could be total frustration to the woodturner.

When I speak to people who are interested in learning how to turn and who want to purchase a lathe, I often get the comment, "I'm just starting out, so I don't need a big heavy lathe." This could not be farther from the truth. Novice turners need a heavy lathe, one that is vibration free. Too much vibration in a lathe could make the novice give up turning.

A heavy lathe that does not transmit much vibration does not necessarily have to be expensive or large. It could be a moderately priced lathe that has been designed well with its heft in the right places and mounted correctly to a heavy base or stand which has been weighed down.

In general, I believe that cast iron lathes do the best job of damping out vibration, as compared to lathes with sheet metal housings. But whether you have a cast iron monster or a small hobby lathe, the following suggestions will help you take the shakes out of your machine.

The Base

If you own what is commonly called a bench-top lathe (one that does not come with its own stand) then I would strongly recommend custom building a stand rather than just mounting the lathe to a table or workbench. This will enable you to use the correct materials to achieve maximum rigidity and reduce vibration.

I believe that a shop-made stand for a lathe should be built out of heavy solid wood 4 x 4's or 4 x 6's for the frame and 3/4-inch plywood or particle board for the panels. Other than cast iron, solid wood construction will most likely do the best job of damping vibration.

For short beds or for standard-length beds up to 48 inches between centers, two frames should be enough support. Locate one frame under the headstock end and one under the tailstock end. Use 4 x 4's to build the frames. Triangular or A-frame construction will help achieve maximum rigidity, balance, and support.

Place two 4 x 6 cross members across both the top and bottom to connect the frames. Cut half-lap joints in both the frames and cross members and bolt them together.

The top of the lathe stand can be made out of solid 8/4 lumber or three pieces of plywood or particle board laminated together to yield a 2 1/4-inch thick piece for the top. Bolt the top to the frame.

Add a shelf to the bottom of the stand by placing two pieces of 3/4-inch plywood or particleboard on top of the two bottom 4 x 6 cross members. Make sure this shelf fits snug between the two end frames. Now box the stand in by fastening 3/4-inch plywood or particleboard panels to the back and sides of the end frames. If your motor is located below your stand on the inside, it would be a good idea to box the motor section off to prevent any loose sand (to be added later) from getting into the motor.

Make sure your stand is level and that all the legs of the frame are seated on the floor. This is important because if one leg is slightly higher or lower, the whole lathe will walk or rock, creating vibration. To eliminate the problem of a short leg, place shims under that leg until all legs are seated firmly on the floor.

Sand is probably the best and most inexpensive material to use for adding weight to dampen vibration. You can use heavy-duty plastic garbage bags (doubled) filled with sand. Wrap the bags with duct tape to seal them. Each bag should be filled with approximately 25 pounds of sand to make placing and stacking them into the stand easier to accomplish. Stack the bags of sand on the shelf on the bottom of the stand, then one on top of another. Try to fit as much as possible into the stand. If you are running out of room near the top, make the bags smaller so that they will fit. The idea is to cram as much sand as you can inside the stand. The less space left open, the less vibration to be transferred. Once the inside is filled with sand, place a piece of 3/4-inch plywood or particleborad on the front using screws to fasten it to the frame's bottom shelf, bench top, and end frames.

By constructing a good, heavy stand and weighing it down with 300 to 500 pounds, there will be no need to bolt the stand to the floor. If you own a lathe that has its own sheet metal stand, you can still add sand by boxing the stand in and adding a bottom shelf.

All this may sound like overkill, but believe me, weighing your lathe down will immediately improve its performance and produce cleaner cuts.

Motors, Belts, and Pulleys

If possible, motors should be mounted separately (off the lathe). If there is a wall close behind your lathe, mount the motor to the wall securely and add a hinged platform to enable you to adjust belt tension and change pulley speeds. The second best location for a motor is below the headstock inside the stand, as close to the floor as possible. These two mounting locations drastically reduce transferred vibration from motor to lathe bed.

If you are limited to motor mounting location because of the design of your lathe and your motor has to be mounted on top of the lathe behind the headstock, the very least you should do is mount a pad between the motor mount and the lathe. Some type of dense foam rubber should work well.

Many turners have replaced the standard V-belts with linked belts. They save a lot of time when having to change or replace a broken belt because you do not have to remove the headstock shaft from the headstock housing to get the belt off. Another advantage is that linked belts cut down the amount of transmitted vibration from motor to headstock. Most often the linked-type belts are sold with turned or machined pulleys to replace the standard cast pulleys. Actually, I believe that it is the superior balance of the machined pulleys that reduces vibration more than the linked belt itself. A good V-belt of the correct length and section (width) will do a great job if you have good pulleys. I use a Browning cog type V-belt on my lathe.

Proper pulley alignment is critical in order to reduce vibration and to obtain maximum power transmission. Use a straightedge to line up the pulleys on the motor and headstock shafts. Make sure the pulleys are not loose on their shafts by checking the set screws that lock the pulleys to the shafts.

Belt tension is important. Belts should flex about 1/32 of an inch for every inch of span between the motor and headstock pulley. If a belt is too loose it will transmit too much vibration.

Bearings

A question often asked in my turning

HOW I SPENT SIX MONTHS IN A GARAGE

George L. Paes

photo 1 George Paes' shopbuilt lathe

Large-diameter bowls are what I wanted to make. I had been inspired by the woodturning of some members of the Central New England Woodturners such as Joe Ferola, Tom Sherwood, and Bill Frost. I needed a lathe dedicated to this type of turning.

In the June 1989 issue of *American Woodturner*, I asked other AAW members to write if they were interested in asking Oliver Machinery Company to put back into production an early 1900s large-capacity faceplate lathe. Not enough turners responded to my letter, so I set out to make my own (photo 1).

I purchased two pillow blocks with a 1 3/16-inch shaft at a flea market for $5.00. This was a great start. Little by little I accumulated other components such as pieces of angle iron and plate steel. I laid out a full-scale drawing on a piece of plywood, then started to cut and fit according to my drawing. With the framework bolted together, I transported it to a garage of a friend for welding (photo 2).

For the next part of the project, I made wood patterns for the toolrest holder and supporting table (photo 3). Someone suggested that steel plate could be sawed, somewhat slowly, but smoothly and accurately, with a circular skill saw equipped with an abrasive cutoff blade. Well, I cut it, and boy did I create some sparks; but I did save a substantial amount of money. With this setup I was able to fabricate the spindle-support table, the motor-support table, and toolrest area.

After assembling all my components, my next concern was the motor and speed control. Because of my experience using a lighter lathe, I knew that start-up speed with an unbalanced chunk of wood should be reasonably slow. I gathered information on r.p.m. formulas and motor mounting. The motor mount and belt-tensioning control I fabricated consists of 1/4-inch plate steel mounted on slide rails driven by a hand wheel and threaded shaft. I am using a 2 h.p., 1725 r.p.m. motor and step-pulley arrangement. I can move the motor in and out to select a safe pulley speed and apply belt tension. I am presently using a 2-, 3-, and 4-inch drive-step pulley to a 3-, 4-, and 5-inch driven step pulley on a 1-inch jack shaft. The jack shaft has a 4-inch driver pulley working with a 7 1/2-inch driven pulley to the spindle. The spindle has a 1-inch by 8 t.p.i. set up to

classes is, "how often should I change the bearings in my lathe?" The only reply I can give (without sounding sarcastic) is, "when they need changing."

To test for worn bearings you must check the headstock shaft for play. Take the belt off the pulleys, grab the nose of the shaft (the threaded section that your faceplate screws onto) and try to pull it in and out and back and forth. Feel for any movement. At the same time put your ear next to the headstock and listen for any knocking. If the spindle moves in and out, this is considered end play. Sometimes end play can be eliminated by taking up slack on a collar or by tightening an allen screw. Be sure to refer to your owner's manual. If the spindle moves side-to-side, this is considered side play, and almost always means it's time to change bearings.

If you own an old lathe that has brass bushings or Babbitt bearings instead of ball bearings, I suggest that you locate a machine shop that specializes in this type of replacement.

Most new lathes are equipped with ball bearings. If the ball bearings in your lathe are not sealed for life, it is more than likely they have a grease fitting to allow periodic lubrication. You can temporarily take out side play by adding extra grease through the fitting. This is only a short-term fix, however, and the longer you wait to replace the bearings, the more damage can be done not only to the bearing, but also to the headstock shaft. Do not overgrease new or good bearings as this will drastically reduce their life.

In most cases there will be two or more ball bearings on the headstock shaft. It makes sense to change both bearings, even if only one is worn; this way you will not have to worry about changing bearings for quite a long time.

Changing bearings is not an easy task. In most cases the headstock shaft has to be removed. If you have not performed this type of operation previously, I would strongly suggest that you read-up. Even better, have someone who knows the operation do the job with you.

Miscellaneous

Cast iron toolrests and tool bases do the best job of damping vibration. Most lathes that do not have a cast iron toolrest base can be fitted with one with little or no modification.

Before doing spindle work, check the alignment between the points of your headstock and tailstock centers. Slide the tailstock up close to the headstock and lock the tailstock travel. Crank the tailstock shaft forward until the tailstock and headstock centers are almost touching. The tips of the points of both centers should line up. If the centers are off you may have to shim the headstock or tailstock for a vertical adjustment or loosen some bolts on the headstock housing to make a horizontal adjustment. It is a good idea to refer to your owners' manual for information on this operation.

I hope the matters I have discussed in this article are a benefit to those turners who are not already aware of these procedures. Once you have removed as much vibration as possible from your lathe, the time you spend turning will be more productive and enjoyable.

Sal Marino lives in Brooklyn, New York.

photo 2 The lathe frame is bolted together and ready for welding.

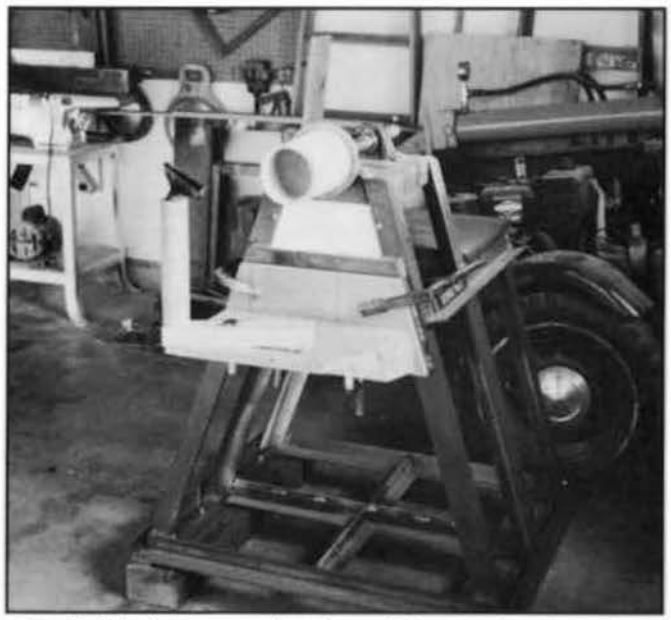


photo 3 Wooden patterns have been designed and put into place to determine the final shape and size for the toolrest holder and supporting table.

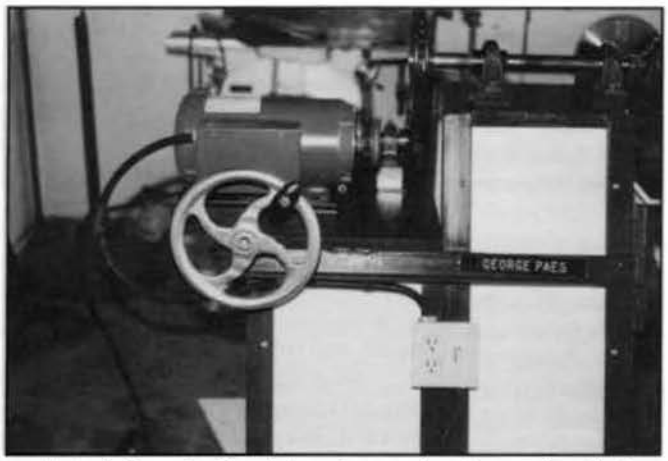


photo 4 On and off switch and external outlets are installed for use with power accessories.

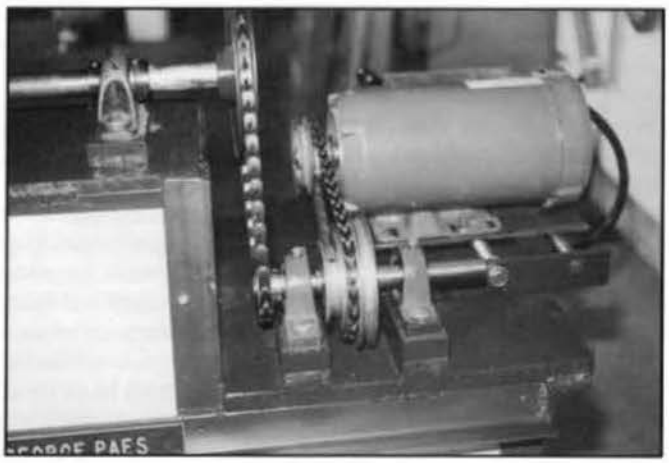


photo 5 link belt and pulley system

allow me to interchange faceplates and chucks that I already own.

At present the speed ranges are 306, 552, and 920 r.p.m. The use of a link belt makes it easy to make up the desired length and can be installed or removed without unbolting components. The on and off switch and external outlets for power accessories make up the electrical system (photos 4 and 5).

For appearance and containment reasons, I chose to install panels of Melamine between the angle iron members. I have considered using sand bags if in the future I need more weight to keep the machine steady. My present capacity is a 23-inch swing by about 14 inches of projection. The unit is mounted on 4- by 6-inch timbers for shock absorption which also allows the use of a pallet jack for moving and handling.

A quick check of my expenses, not including my labor, shows a rough cost of about $750.00.

The greatest satisfaction of turning on this lathe is yet to come, but I feel that some day soon I'll be able to turn that big bowl that so many of us dream about. In the meantime I'll work my way up to it and try to share my feelings and lathe time with my fellow members of the Central Coast Woodturners of California.

George Paes is president of the Central Coast Woodturners of California.

BUILDING A BOWL LATHE

Percy Olmsted

I decided to build my own bowl lathe, but only after reassessing the possibilities for the hundredth time. I had originally become interested in turning because of the Shopsmith I owned. My second lathe, a small Delta, was fine, but the low speed setting of 500 r.p.m. was a little fast for an out-of-round bowl blank; the belt slipped with heavy cuts at 500 r.p.m.; and the size bowl I could turn was limited to about 11 1/2 inches in diameter.

Having my own torches and welder and a supply of used steel on hand sure helped. What I didn't have I bought from a local scrap-iron dealer. The frame of the lathe is fabricated from used steel.

The two approaches I considered were: electric/hydraulic or electric/mechanical. I decided on the mechanical approach and used an automobile transmission as the main source of speed changes. Again, I considered two possibilities: a 4- or 5-speed transmission by itself or a 4-speed transmission combined with step pulleys.

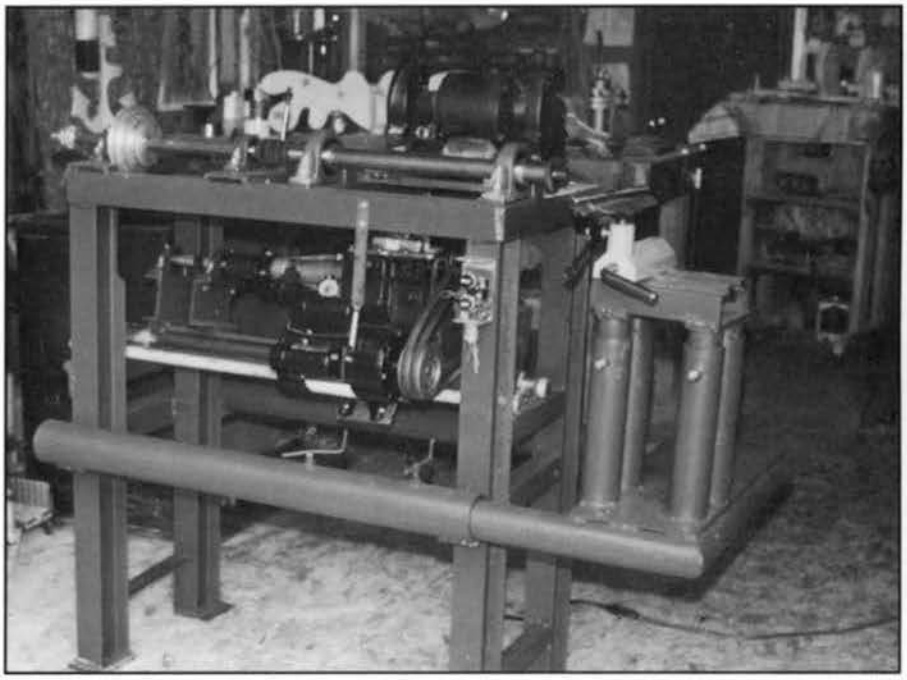
My initial choice in this case was a 4-speed with 4-stage step pulleys. Unfortunately this did not work out, as the pulleys I needed required a one-inch bore and the manufacturer could not provide a 4-stage step pulley for about four months. I settled for 3-stage pulleys and received *one* of them in three weeks. The stages are four-, five-, and six-inch in order to minimize slippage.

I still do not have the second pulley, but the lathe is now operating. Fortunately I was able to obtain two somewhat smaller ones: three-, four-, and five-inch size. I am using those instead.

The lathe frame is 45 inches high to the center of the spindle. The width is 20 inches plus the 3 1/2-inch pipes for the toolrest-bed mounts. The length of the frame is 38 inches plus the toolrest-bed mounts which can expand as much as 36 inches.

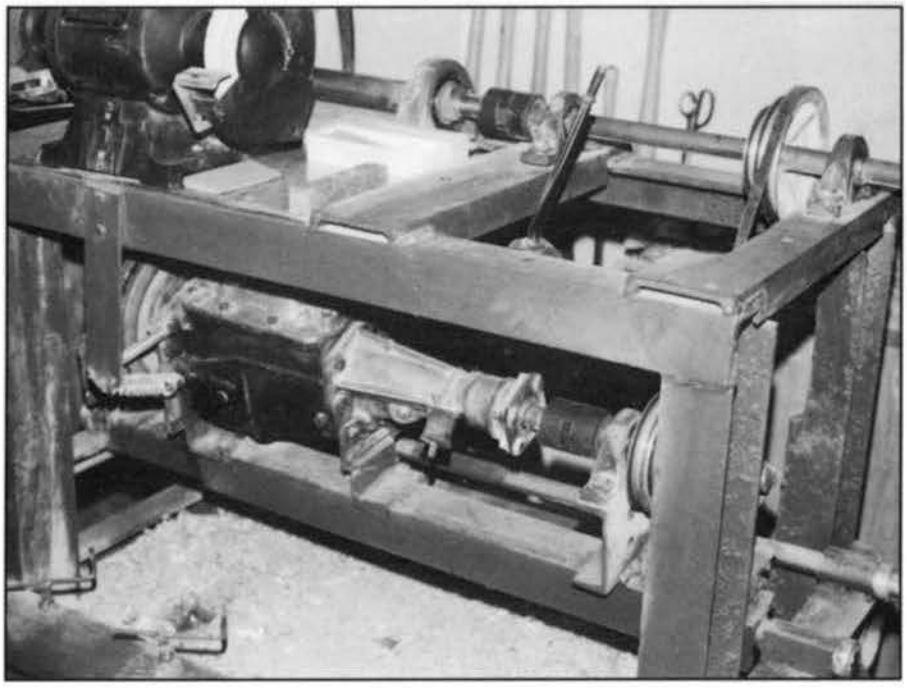
The power source I chose is a 2 h.p. compressor motor which is reversible. This reversible feature was necessary as I have to run the transmission counter-clockwise to get a counter-clockwise rotation on the spindle (right-hand lathe). Ordering the motor and finally getting it is a whole other story. Even with 93 in stock, the company took over a month to ship it.

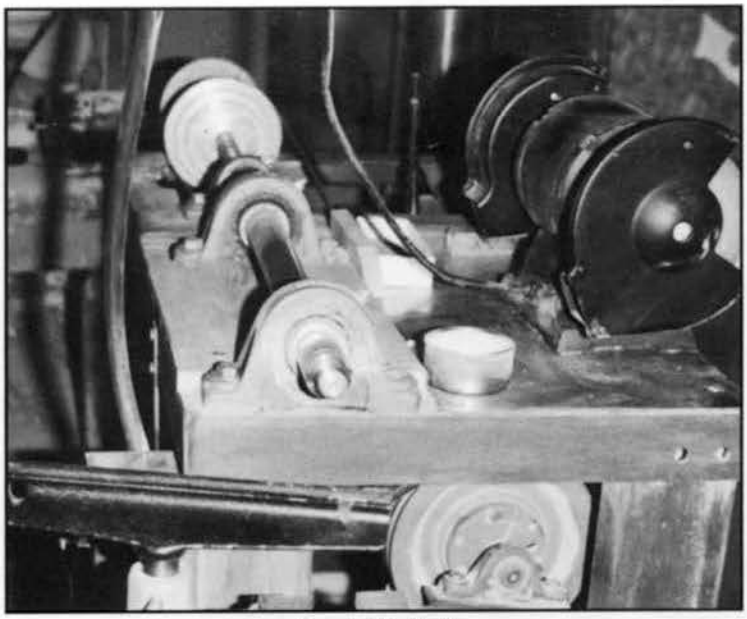
The main spindle shaft, which is 1 1/2 inches in diameter with a 1 inch by 8 t.p.i, was turned and threaded in a local



The frame of the lathe is fabricated from used steel. The bottom section was paneled in with plywood, forming a box for adding sand.

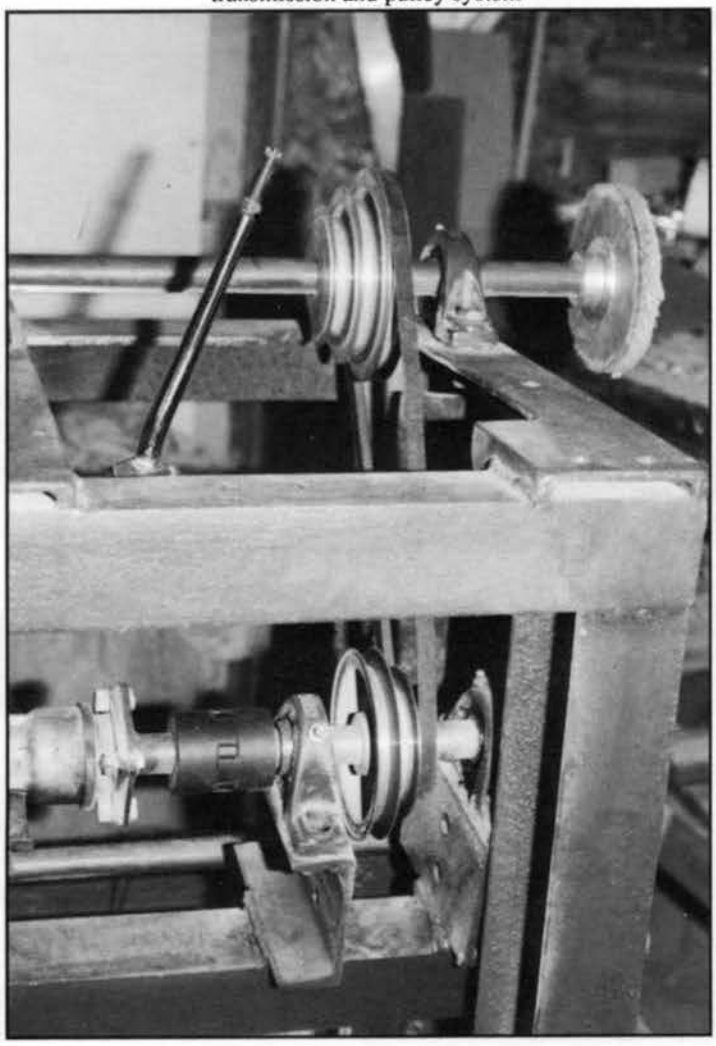
The transmission from a 1959 Triumph. A grinder is mounted on the top of the lathe for easy access.





main spindle shaft

transmission and pulley system



machine shop. It was the single most expensive component. I had the spindle thread done to match my Delta lathe so that I could use the same accessories. I also made the bed to accept the Delta toolrest and tailstock. The bed is 9 inches long, just long enough to accept the toolrest and tailstock together in case I need to use the tailstock for extra support during roughing out.

The transmission is a 4-speed from a 1959 Triumph automobile. I chose it because it is small, 4-speed, cheap, and available. Because of the method used to connect the transmission to the car-drive shaft--a flange with 4 bolts--it was easy to adapt to my purposes. There is also a pillow-block bearing on the front of the transmision to help take up the weight and stress on the front transmission bearing.

The transmission is on a pivot so that it can be released to change pulley speeds. It is spring loaded to keep belt tension on the 3-step pulleys, but I block it tight during operation to eliminate vibration and give it more positive traction and less belt wear.

By using a 4-speed transmission and 3-step pulleys I came up with 12 speeds on the lathe. The slowest is approximately 180 r.p.m. and the fastest is about 2600 r.p.m. There are also three speeds in reverse gear thereby eliminating the need for a reversing switch on the motor.

The electric motor, also spring loaded, is 2 h.p. and runs at 3450 r.p.m. I cut the speed of the motor down to 1725 r.p.m. by using a 4-inch pulley on the motor and an 8-inch pulley on the transmission. These pulleys are double "V" pulleys, so there is no slippage. I prefer to have slippage, if any, on the single belt that drives the step pulleys. That way, the spindle shaft will stop or slow down, giving a better measure of safety. So far I have encountered no slippage at any speed.

By cutting the motor speed as it drives the transmission, I could come out with a lower spindle speed with the step pulleys and then increase the speed beyond 180 r.p.m. Initially I wanted a low speed of 200 r.p.m., but since my engineering is "by guess and by gosh," I am very happy with the results.

The toolrest assembly is unique. Although the bed is only 9 inches long, the bed mount is adjustable from 2 inches to 36 inches from the spindle. The bed can also be raised or lowered about 6 inches in

Percy Olmsted turning a bowl. The free-standing toolrest (left side of photo) doubles as a light stand.

Percy Olmsted, yellow birch, 13" dia. x 4 1/2"

addition to the regular adjustment on the toolrest holder. The bed mount is made of pipe. The larger outside pipe is 3 1/2 inches and the smaller inside pipe is 3 inches. These are fairly tight fitting, and the mount is locked down by two set screws on each side.

The adjustment is made by loosening the set screws and simply pulling or pushing the bed mount in the direction desired. The distance from the spindle shaft to the bed mount is 24 inches at the sides. This will allow turning a piece 48 inches across by 36 inches deep, which is far larger than anything I want to turn. I would want a much larger diameter spindle shaft for that kind of weight. However, it does give me the freedom to turn any size I may want to try.

To accommodate turning larger pieces, I made a free-standing toolrest mount. It has a short bed that will accept the Delta toolrest. It is built of pipe on an angle-iron tripod with an adjustment at the top--again pipe inside of pipe with set screws. Also, the toolrest adjustment is there for quick, normal operation.

Since the frame of the lathe had to be big enough to accept the motor and transmission side by side, it left me enough room on top to mount my tool grinder. This is an added convenience, as I can sharpen my cutting tools without shutting down. I also added a cardboard buffer on the far end of the spindle shaft for quick burr removal.

For those of you out there who are left-handed, this may be the answer to the problem of finding a left-handed lathe. If you decided to build a lathe like this, you would just have to make a mirror image copy. Put the motor on the right side, transmission on the left with the spindle shaft on the right on top, and run it all clockwise. This way the transmission would also be running clockwise as it does in a car. You would also have to move the toolrest to the left side and have the spindle threads cut left-handed, and you would be set to go.

The last step in fabrication was welding a 1/8-inch steel plate on the bottom and putting on plywood sides. This formed a box which I filled with sand. This makes the lathe very smooth-running but also very heavy. Not exactly what you would call portable.

Now all I have to do is turn some bowls!

Percy Olmsted is a retired high school social studies teacher who lives in Ishpeming, Michigan.

TURNING DOMESTIC: PERSIMMON

William L. Stephenson, Jr.

There is a substantial variety of domestic wood readily available to the discriminating woodturner in North America and the United States. Through better understanding of the choices, more turners will be able to utilize the great variety at our disposal. Persimmon was selected for this article due to the range of local availablity.

The common persimmon (*Diospyros virginiana*) tree is well known throughout the eastern and southern United States. Persimmon is widely distributed and frequently occurring in the natural range, which makes it rather unusual that this wood is not often used or mentioned as a wood for turning. Perhaps the lack of use is associated with the specialized commercial applications and limited availability through retail outlets. Neither of these factors should deter the discriminating artisan from discovering persimmon as a medium of expression. Persimmon is enjoyable to turn as it cuts clean and permits the formation of intricate curves, precisely turned features, and exact detailing important to quality execution of turned objects. A well known professional woodturner from Indianapolis, Indiana, uses persimmon to turn miniature goblets.

The natural range for common persimmon is from the Atlantic coast west to central Oklahoma and from the upper Ohio valley south to central Florida. The other species of persimmon in North America is Texas persimmon (*Diospyros texana*), found along the southeastern coastal plain of Texas and south into Mexico. Common persimmon, however, is the only species that attains sufficient size to be important as a timber species.

The persimmon tree is small to medium-size and rarely exceeds 60 feet in height and 18 inches in diameter. The smaller trees are commonly found at the margins of old fields while larger trees grow in rich bottomlands throughout the natural range. The better the growing conditions, the bigger the tree. Persimmon generally grow as scattered individuals and rarely as pure stands.

Persimmon is easy to identify. The bark of older trees is almost black and is separated into thick, nearly square blocks often referred to as alligator bark. The leaves are alternate, oval, entire, three to six inches long, dark green and shiny above, and pale green beneath. The small flowers, which open in May, are yellowish or cream-white and somewhat bell-shaped. The female flowers are solitary. The male flowers occur on separate trees in clusters of two or three. The flowers are visited and cross-pollinated by many different insects. The medium-size fruit is pulpy, round, a medium-orange or burnt-orange color, and contains several flattened, hard, smooth seeds. The fruit is a strong astringent while green but is sweet and delicious when thoroughly ripe. The high carbohydrate and sugar content of the fruit causes persimmon to be in heavy demand as wildlife food by foxes, opossums, bears, and many other animals. The fruit also makes a delicious pie or cobbler (but make sure you wait until about a week after the first frost before harvesting).

Persimmon is a semi-ring-porous wood with distinct, but not conspicuous, growth rings. The springwood pores are visible to the naked eye and usually decrease gradually, sometimes abruptly, in size toward the outer margin of the ring. The pores are solitary and in multiples of two or three. The rays are difficult to see without a hand lens. Rays will form ripple marks on the tangential surface.

Persimmon is used commercially for shuttles, spools, and bobbins in textile weaving; the "wood" in golf club heads; shoe lasts; boxes and crates; and handles. Usage is based upon the inherent characteristics of hardness, strength, toughness, and the ability to stay smooth under friction. Laminated usage is uncommon as persimmon does not glue well. The root collar and main stem of saplings can be made into a very durable maul for striking other wood surfaces. In some parts of the U.S. another product, persimmon brandy, can be found. There are no known pharmaceutical extractives derived from persimmon nor are there any known medicinal properties, except perhaps those available from a well made persimmon brandy or those that may result from eating too many of the fresh fruit.

Persimmon as a turning medium is not well known. It is the only member of the ebony family (*Ebenaceae*) native to North America. The wood of persimmon, like other ebonys, is hard, dense, heavy, and strong. The sapwood is white to yellowish when freshly cut and both the sapwood and heartwood may be streaked with brown or black lines which are caused by some pores being filled with natural deposits. There is normally very little of the blackish-brown or black heartwood.

Persimmon darkens on exposure to air and light to a yellowish or grayish brown. The darkening is a natural phenomenon and is probably due to a change in the composition of the wood similar to the darkening of heartwood in other species. In some instances, the darkening may be caused by the growth of other organisms, such as mildews, which thrive on the sugars inherent to many of the fruit-bearing trees. To retard this type of darkening but retain the natural change in color, wipe or spray on a generous coating of household bleach which will kill the microorganisms.

Persimmon, like other fruit woods, seems to have a high affinity for wood-boring insects. The greatest damage seems to occur in the two or so months after harvesting. To minimize damage, cut persimmon during the dormant season and process the wood into a drying cycle before warm weather. Rather than treat the wood to eliminate wood-boring pests (which requires extreme caution and safety), it is better to design the borer holes into the turned piece as features. If you have found evidence of borers during turning, a couple of minutes in a microwave oven will permanently cure the borer problem.

When drying either a blank or a green-turned persimmon object expect the wood to distort a lot (*American Woodturner*, Vol. 6, No. 1). Even expect a solid piece to split and crack. The volumetric shrinkage of 19.1 percent is among the highest for domestic hardwoods. Persimmon also shrinks 42 percent more along the growth rings in the tangential direction (11.2 percent) than across the growth rings in the radial direction (7.9 percent). Once the wood has reached a stable (indoor) moisture content of 6 to 12 percent, expect the dimensions to continue to change with fluctuations in humidity.

Drying a turning blank from persimmon must be a slow process, as slow drying seems to minimize cracking and splitting. Think in terms of about one year of air drying for each 3/4 inch of thickness and add a few months. Mark the date and the weight on the bottom of the piece for future reference. If you periodically record the weight of the piece using any method

Betty J. Scarpino, 1993, persimmon 7" dia. x 5", rough turned green to 1 3/4" thick, air dried for two months, finished turned, then carved

of drying, you will know the piece has reached moisture stability with the environment when it no longer looses weight.

Slow and controlled drying of persimmon turning blanks is required to minimize splits and cracks. Cut round wood (log) sections in half parallel to the center pith removing both the pith and about one inch of wood adjacent to the pith. Coat the ends of the blanks and any irregularities such as large knots with a wax-based sealant (Sealtite 60 by ISK-Biotech--formerly Chapman Chemicals--of Memphis, Tennessee, or Anchorseal by U-C Coatings Corp., Buffalo, New York). Store the blanks in a protected area out of direct sunlight for a couple of years depending on the thickness and the local drying conditions. Check the blanks occasionally for cracks that may develop. Apply water-thin cyanoacrylate glue which will run to the origin of the crack and perhaps retard any further damage. Then fill the crack with gap-filling cyanoacrylate glue. If the wood continues to crack, green-turning the blank or cutting it into smaller pieces is recommended. To dry the wood even more, move the blanks indoors for six to nine months. The moisture content will stablize with the indoor environment which will minimize further shrinkage after the blank is turned into a finished object.

Due to the high density and toughness of persimmon and its susceptibility to cracking, consider turning bowls and bowl blanks from green wood (see *Fine Woodworking*, Vol. 3, p. 37, article by Alan Stirt on turning green wood). By rough turning a bowl in green wood to the desired shape with a wall thickness of about one inch, you can then dry the bowl and have enough wood within the distorted sides to turn the final piece to the original round shape. For woods like persimmon that warp a great deal, a thicker wall might be needed. Greater wall thickness, however, increases the potential for cracking as well as increases drying time.

A green-turned, rough-cut bowl can be dried by using one of three methods. None require the purchase of expensive equipment or materials. The first approach is slow and controlled open-air drying. Coat the piece with a wax-based sealant, diluting it with a little water if you think the sealant is too thick. The intent is to slow the loss of moisture from the outside surfaces, NOT prevent the loss of moisture. Place the piece in a protected area out of direct sunlight for three to six months, depending on the thicknes of the vessel walls. Move the piece indoors for a few weeks, and you should be ready to make your final turning.

The second approach is controlled drying in a restricted environment, namely a plastic bag. Place the uncoated piece in a plastic bag and close the bag with a twist tie. Each day, or every couple of days if you forget, turn the bag inside-out and close it with the piece inside the bag. This technique can be used indoors or outdoors but remember that the maximum drying in the shortest time will be indoors due to lower and more consistent humidity. If you have the time and remember to reverse the bag each day, you will reduce

Bill Stevenson, persimmon, spindle-turned bud vase, 1 1/2" dia. x 9"

the overall drying time by a month or two.

The third approach requires a microwave oven and is by far the quickest and most aggressive. Due to the variability in microwave ovens coupled with the variability in wood, this approach to drying can be the most risky. Because of the high density of persimmon, the moisture escapes slowly so the best approach is to use short cycles of two to three minutes at the highest setting followed by a 15 to 20 minute cool-down period. Seemingly, the wood has time to breathe allowing moisture to escape during the cool-down period. Let the dried piece cool overnight before putting it back on the lathe for final turning. Microwaves work by exciting the molecules throughout the piece. The motion of the molecules generates heat by friction. Cook cycles that are too long with inadequate cool cycles can cause the wood to burn from the inside. The number and frequency of cook/cool cycles will vary depending on the size of the object and its moisture content.

With thoughtful design, shrinkage and dimensional changes can be used to enhance the aesthetics of turned items, especially bowls. A bowl, turned from a half-log of green persimmon to final form with a wall thickness less than one-half inch, will distort almost to an elliptical shape. The distortion will be about the same when you turn a bowl with the pith closest to the bowl bottom (as in natural-edge turnings) or when the bowl bottom is closest to the outside of the log (traditional bowls). For the least distortion in shape, turn bowls from log quarters with the bottom of the bowl nearest the center of the log. Quarter turning has the greatest potential to highlight the ripple marks inherent to the tangential surface.

Spindle-turned objects (the grain of the wood parallel to the bed of the lathe) distort less when drying than do faceplate turnings (the grain of the wood perpendicular to the lathe bed). However, the larger the diameter of the object, the greater the total shrinkage toward elliptical shapes. You can reasonably turn smaller objects either green or dry.

By becoming acquainted with the technical properties of a wood, such as fiber length and specific gravity, the turner will begin to better understand its unique turning characteristics and can anticipate the behavior of the wood during creation of a turned object. The length of persimmon fibers is 1.39 mm, which is relatively long for hardwoods. Fiber length coupled with the compactness of the fibers (specific gravity 0.64), confirm that persimmon is strong, dense, and heavy. The fiber length, strength, and density characteristics cause persimmon to be very good for thin and intricate turnings such as the stems of goblets and thin-wall bowls with turned details.

Gluing persimmon requires very close control of the glue and gluing conditions. Glue line failures can be expected. Special treatment, such as forced drying of the surface to be glued and coating of the surface with products that reduce moisture-content changes in the wood, may be required. A general guideline is to avoid gluing persimmon where there will be stress on the glue line. If you have a problem getting a turning blank to stay glued to an auxillary block, try using a chuck for holding the piece. Or use gap-filling cyanoacrylate glue instead of yellow carpenters glue.

Persimmon works well where intricate curves or turned features such as beads, coves, ridges, and valleys are integral to the design. These features will hold up well during finishing and over time. Since the wood grain of persimmon can be rather featureless except on the tangential surfaces, it is generally desirable to include turned features into the design on both spindle and faceplate turnings.

Persimmon can be used to replace imported tropical ebony (many of the tropical ebonys are endangered species). If sufficient black heartwood cannot be obtained, you can try dyeing the wood or using a black penetrating stain.

For turners with access to an ornamental lathe, persimmon should be an excellent medium for ornamental turning since the characteristics are very close to ebony, a popular wood for ornamental turnings. Sharp edges can be turned into persimmon and the edges will hold. With a bit of forethought, the ornamental turner could also take advantage of the expected distortion that occurs during the drying process.

Avoid turning objects from persimmon where a tight fit, such as the lid on a turned box, is needed. Persimmon will continue to change shape even with subtle changes in atmospheric relative humidity.

Sanding and finishing persimmon is a joy compared to many other woods, especially if you have kept your tools sharp for the final cuts. Start sanding with the finest grade sandpaper your surface will permit. Grit sizes larger than 150 grit, however, are usually not desirable in that you will have a lot of larger scratches to remove. Continue sanding with finer grits (180, 240, 320) finishing with at least 400 grit. You will note that with the finer grits the wood begins to sheen. If you sand with 600 or even 1000 grit, no other finish is needed. You can apply a hard finish wax as some protection is usually desirable. Straight beeswax that is burnished on with a soft cloth or a few fine shavings, holds up well and is an excellent finish for persimmon.

If you have not created a turned object using the American ebony, persimmon, then it is time you gave it a turn.

Bill Stephenson is a professional forester who has been a serious woodturner since 1988. He is developing a source of supply for persimmon from behind land-clearing operations. Write him at 6365 Paxton Woods Dr., Loveland, OH 46140 for details.

PRODUCT REVIEW: Two Products by Oneway Manufacturing

Dick Gerard

Product reviews do not constitute an endorsement by the American Association of Woodturners. The opinions expressed are those of the reviewer.

I would like to start by outlining the criteria by which I judge a product: Does the tool or product do what is claimed? Is it simple/easy to use? Does the product benefit the *turner* in terms of safety, efficiency of use, or an improvement to an existing product or is it just something to get us to part with our money? Are instructions clear, concise, and easily understood? Are illustrations clear and easy to read? Are safety issues addressed? I also consider packaging--it tells you a lot about the way the maker feels about the product.

The Oneway 4-jaw scroll chuck

It may seem a small thing, but I was impressed with the packaging of the chuck and its accessories. The extra jaws have their own boxes and everything fits neatly in place. My initial inspection of the chuck revealed a high degree of precision in manufacturing. The nickel plating and dry-lubricated scroll meant that I didn't have to clean everything off in solvents. And the scroll works silky smooth. An important feature of this chuck is the built in safety mechanism that prevents the jaws from flying loose from the chuck.

This chuck has an overlap in jaw sizes--an asset for a chuck user who goes from size to size based on what the wood has to offer rather than a preset plan. Fit and finish are among the best I have seen. Ease of use and consistency of application is also topnotch. Runout is non-existent. The multiple serrations on the jaws and the deep tenon insure more than adequate holding power even on the roughest of stock.

One other thing I should mention is the design of the Jumbo Jaws. These are used to hold vessels by the upper rim and to give access to the bottom for detailing and turning away screw holes. The jaws themselves are made from high-strength aluminum. Rubber bumpers can be stacked for improved gripping, and radial slots allow for gripping bowls that have gone oval. Also, user-designed false wooden jaws may be incorporated.

The Oneway chuck is more expensive than its nearest competitor, however I would not hesitate to recommend it to anyone. The safety features, precision manufacturing, dry lubricants, and hardened jaws all add up to excellent value for the dollars.

Termite Ring Tool

The Termite is Oneway's version of an endgrain hollowing tool. It could also be called a right-angle gouge. The tool comes with two different sized ring cutters, a grinding point, and allen key, and a grinding jig. The tool may be used directly against endgrain, as when turning a goblet or box, or a hole may be bored to the required depth and the tool inserted and moved laterally across the bottom and then up the side of the object. Both methods work equally well.

This tool is easy to use and comes sharpened from the manufacturer. After turning a number of items from dry wood, I can safely say that the Termite is now an important part of my arsenal of tools. The finish left by this little tool, when used properly, eliminates a great deal of sanding. The tool is apt to chatter if not supported adquately, but so are almost all other tools. The maximum depth for the Termite is about 6 or 7 inches unless you have a way of getting your toolrest right into the bottom of the turning to provide the needed tool support. The manufacturer is in the process of developing a larger, longer tool--certainly a must for deeper bowls and for deep vessels with small openings.

Sharpening the Termite is easy thanks to the well thought out and well designed jig. Read the instructions, however, and do not use a drill press to hold the grinder point. You need to use a router as instructed. You will be rewarded with a sharp cutting edge.

I also used the Termite to clean up the transition curve area on the inside of bowls that nearly always seems to develop rough spots when a cutting tool traverses the vertical side to the horizontal bottom. The tool will also remove that little dimple in the center of bowls in no time flat!

Like the chuck, the Termite is a bit more expensive than other similar products, but once again, it is well manufactured, easy to learn how to use, and will give you your money's worth over the years.

Oneway products are available directly from the manufacturer or can be ordered through the following dealers (addressed in *AAW 1992 Directory*): Garrett Wade, Packard Woodworks, Treen Heritage, and Lee Valley Tools. House of Tools: Wood'n Works carries them also.

Oneway Manufacturing
241 Monteith Ave.
Stratford, Ontario
Canada N5A 2P6
1-800/565-7288

Dick Gerard lives and turns in Indianapolis, Indiana.

SAFETY REMINDER

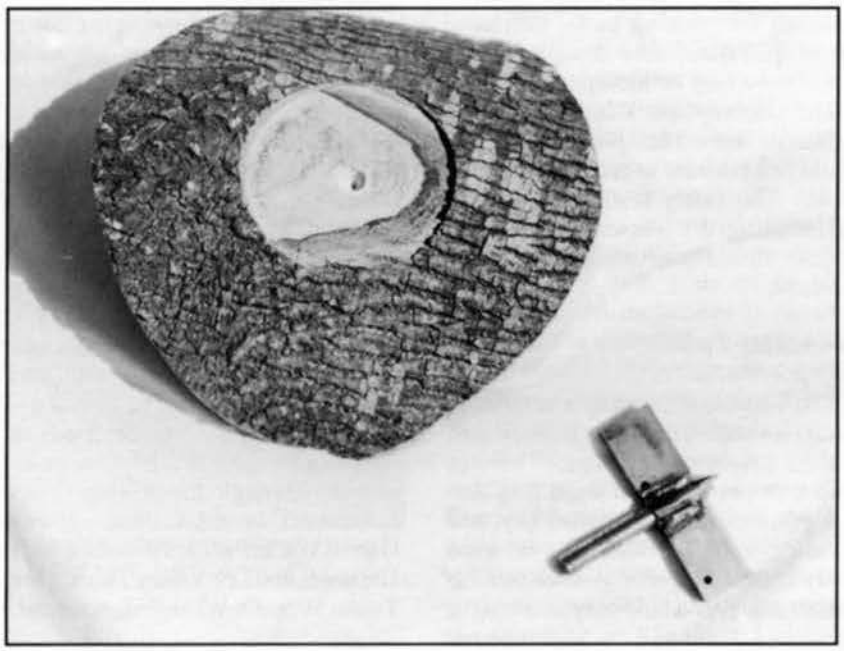
Woodturning can be dangerous. Keep safety in mind when trying new procedures, and use tools and machines in a appropriate and safe manner. Select wood that is appropriate for your woodturning skill. Always wear eye and face protection when working in your shop.

TURNERS' TIPS and QUESTIONS

Robert Rosand, Section Editor

Send tips to: Robert Rosand
Dutch Hill Woodturning
RD. 1, Box 30, 717/784-6158
Bloomsburg, PA 17815

What a great response from so many AAW members! The "Tips" section is flourishing thanks to your support. Keep sending in your tips and don't forget--the top tips will win a prize at the end of the year.



Cutter for bark-edge bowls

I enjoy turning bark-edge bowls, and for a long time suffered through mounting a faceplate on a rounded surface through a softer bark surface. At one of our chapter meetings, someone suggested the idea of an adjustable box to guide a router with a straight cutter to create a flat spot to attach a faceplate to. This idea worked to a point, however, I found myself with a hit-or-miss flat spot.

One day at the local swap meet I found a used countersink with a 1/2-inch diameter shank for metal work. The buying price was right so it became mine. I had it for awhile before I came up with an idea of how to use it. In my box of odds and ends I found a piece of tool steel 3 5/8-inches long by 1 1/4-inches wide by 5/16-inch thick. I ground one edge to about a 60-degree hollow-ground angle. I then cut the steel in half and had the pieces welded very carefully to the countersink.

With the cutter mounted in a drill press, I use the slowest speed and a very easy pressure-feed rate to cut a parallel surface on the bark edge of turning blanks so that I can attach a small faceplate. The pieces I attach in this manner have most of the wobble removed.

I am now looking looking to find more countersinks so that I can make two more cutters--one larger and one smaller in diameter.

George L. Paes, President of the Central Coast Woodturners of California

Portable grinder stand

I like to have my grinder near my lathe, but want to be able to move it when the need dictates. While visiting some yard sales, I happened on the roller-base unit for a mechanics tool chest and acquired it for a reasonable sum. It has proven to be an ideal stand for my grinder.

The unit also has several drawers which provide storage for chucks, calipers, and other accessories. The casters on the base are large enough to roll through a considerable amount of chips and shavings, but when locked keep the unit where I want it.

To dampen the noise from the grinder vibrating on the metal cabinet, I fitted a sheet of 1/4-inch thick rubber mat to the top of the unit. This has provided many additional benefits, including no need to bolt the grinder to the base.

I'd like to share a tip about my grinder. It has a slow-turning, horizontal lap wheel on one end which is great for honing keen edges on my tools.

Dutch Hollenbach, Roanoke, Virginia

Orbital sander

Try an orbital sander for sanding on the lathe. I run mine with a disk of 80-grit paper, and it really does a great job. It is usually, but not always, desirable to apply the non-spinning disk to the rotating work in the lathe, then turn the sander on, holding pressure on the sander to keep it oscillating and prevent its spinning.

I keep a short length of 2 x 4 on my lathe bench, and if the sanding disk on my orbital starts spinning, I turn the sander off and press the disk against the 2 x 4 to stop it quickly.

Change disks grits down to at least 220 grit or finer.

I am anxious to try this with one of the new detail sanders. It should work great.

Dean C. Westervelt, Acme, Pennsylvania

Another use for carpet squares

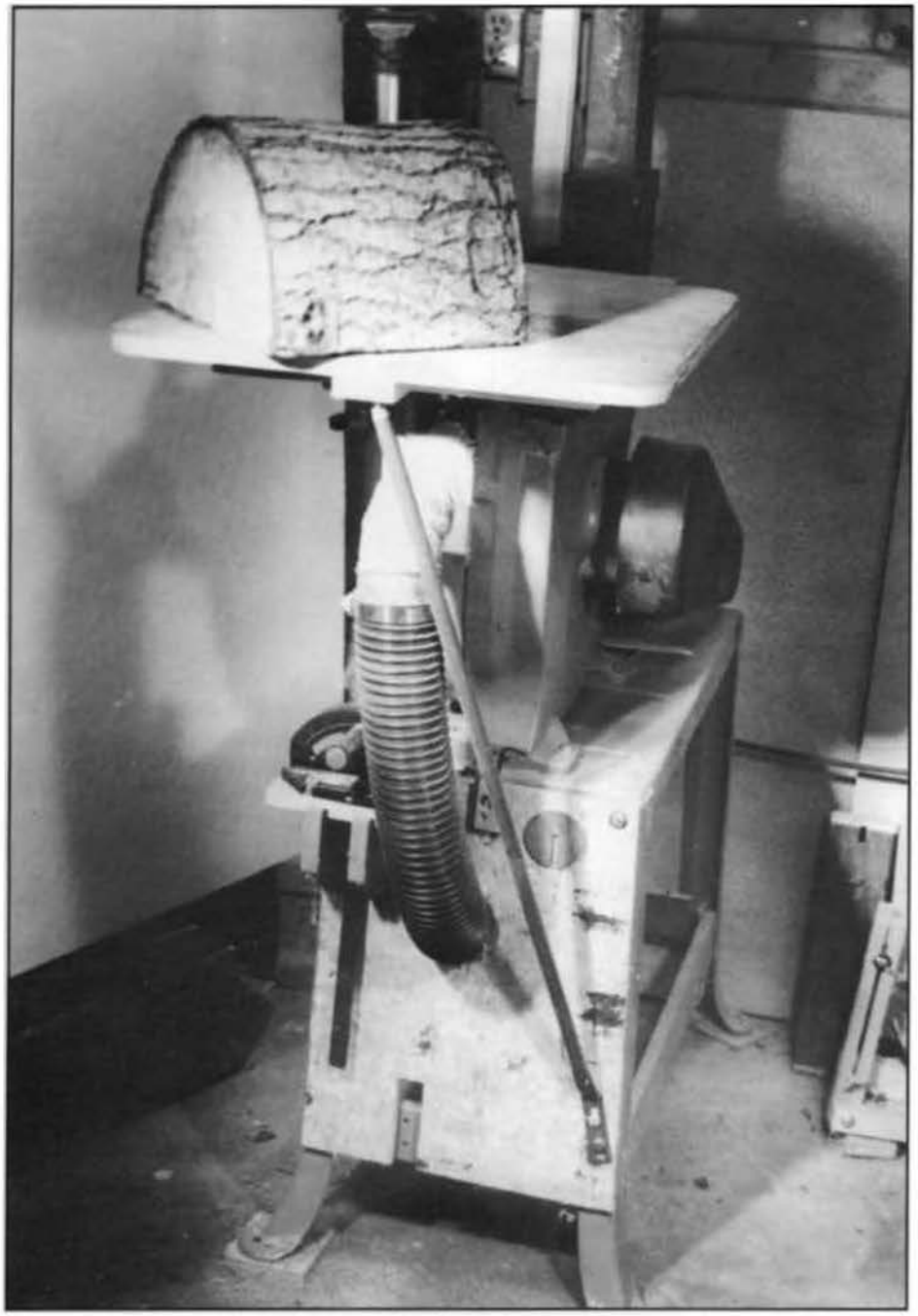
To prevent damage to the top surface of my finished bowls as I hand finish the bottom surface, I use a carpet remnant large enough to invert my finished bowls on. I've punched a hole at one corner of the carpet to allow me to hang it at the side of my bench, and I shake it clean before each use.

Charles Brownold, Davis, California

Bandsaw table

When I bandsaw large-diameter green-wood blanks for turning, I find that my bandsaw table is too small to handle the half-log pieces safely. I made a larger plywood overlay table. The underside of the plywood table has a frame that snugly fits the original cast-iron table. A diagonal brace down to the machine-stand base supports the larger table (see photo). The top end of this brace has an adjustable bolt that fits into a hole in the bottom of the table. I use this bolt to adjust the brace for length.

The plus side of building this larger table is the ease of handling larger blanks. On the negative side is the loss of 3/4-inch



bandsaw table extension for cutting large, heavy stock

head room because of the thickness of the plywood; the loss of the use of the miter-gauge table slot; and it's a little more trouble changing blades. Since my woodworking is primarily turning, these disadvantages do not trouble me.

Charles Brownold, Davis, California

Clamping jig

When my green-turned bowls are dry, I glue a hardwood disk to their base so that I can complete the internal and external turning in one setting.

To maintain concentricity, first I turn the base of the bowl round. Then I turn a recess in a hardwood block previously mounted on a faceplate to mate the base of the bowl. I overcame the clamping problem by using the setup in the photograph. It is made up of two bar clamps and two pieces of 2 x 4. I have made several sizes to accommodate different diameter bowls.

Charles Brownold, Davis, California

Signatures

To write on finished turnings, use a very fine-point permanent pen. The kind used to write on false teeth works great. It is a Micro Pigma Pen, item SDK 150, Sakura Products Corp. You can get them from art and drafting supply stores.

Emery St Cyr, Roanoke, Virginia

Sanding disc organization

Keeping sanding discs separated and in their proper grit group was a problem until I found a solution in the kitchen cabinet. Heavy-duty reusable sandwich bags were the answer. I took scissors and snipped off one side of the bag at an angle and thumb tacked them onto the inside of a cabinet door. This leaves a V-shaped pocket to hold the disc. You can see through the pocket to check the quantity or condition of the discs.

Use a felt-tip pen to mark on the front of the bag the grit size. You can now replentish your stock before you run out.

Since only the outer edge of sanding discs get worn, I save the worn disc and trim off the outer edges so that they can be used on smaller-diameter pads.

S. Gary Roberts, Austin, Texas

Wall thickness

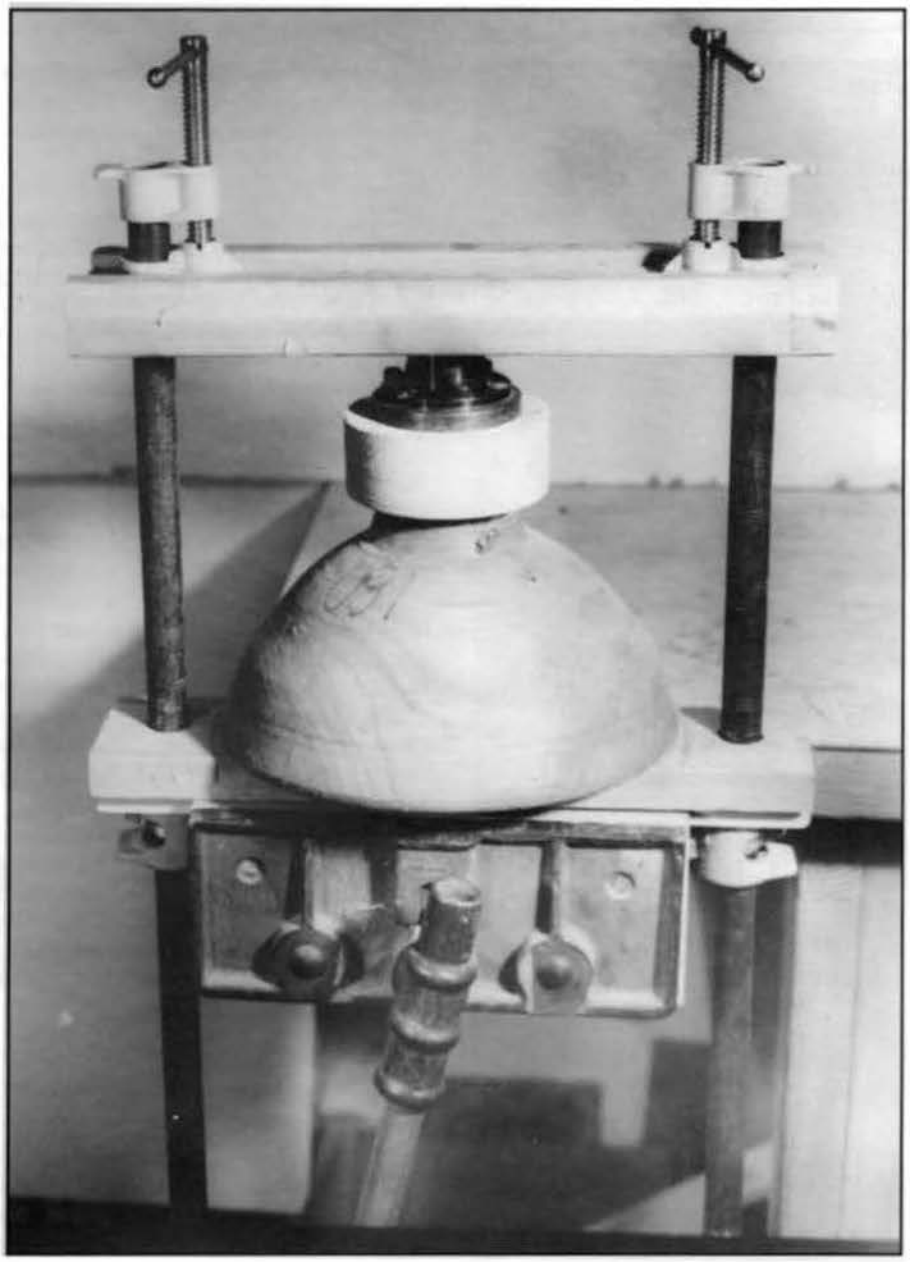
The simplest method I have ever seen for determining the thickness of hollow vessels was at David Ellsworth's shop. He uses 3/16-inch galvanized hardward rod (about $.88). It is cut and bent to the desired shape and wall thickness. Simple, cheap, and effective.

Robert Rosand from David Ellsworth

Bent-angle tools

If you want to use bent-angle tools but don't want to go to the trouble of silver solder, try drilling a hole in the piece of drill rod at a 45-degree angle and epoxying a piece of 1/4-inch high-speed steel in place. When the bit wears out, heat the tool, remove the HSS and epoxy another in its place.

Robert Rosand from David Ellsworth



HSS sources

I am often asked about sources of high-speed steel for making tools. Other than my friendly machinist, many of my tool bits come from worn out gouges or scrapers. It only takes a little grinding to convert bits of HSS to very useful scrapers or bent-angle tools.

Robert Rosand

Protect your machine's surface

Often the shop space and surfaces have to be used for auxilary purposes. Such is the case in my shop. I use the circular saw as a bench to glue, apply finish, and do regluing of furniture. It is located centrally and can be worked from all sides, something my bench doesn't allow.

To keep the metal top surface clean during this kind of use, as well as when I am throwing green chips all over from the lathe, I have a piece of canvas cut to fit as a cover. It protects yet gives a quick access to the saw. I cover my belt/disc sander the same way to keep glue, finish, dirt, lathe chips off of its belt and table surfaces. Plastic covers could be used, but I like the canvas--it seems to be a better work surface.

Palmer Sharpless, Newtown, Pennsylvania

Footwear protection

About the only aspect of turning that bugs me is getting chips and sawdust stuck in my socks. High boots with pants worn outside will solve it, but I prefer wearing sneakers in most seasons.

My solution is to slip on plastic bags over my footwear and use rubber bands or masking tape to keep them in place. Bread bags and grocery store bags will work, and various sizes can be found at many paper-products stores.

Jerry Burt, Plainfield, New Hampshire

Raising the grain for sanding

Some time ago I read about using the 50/50 mixture of sanding sealer/turpentine as a sanding lubricant. I have used this mixture, and it works very well. It is a bit messy--my faceshield and safety glasses get smeared up. And it does take some time to dry.

Recently I was turning a batch of small candle sticks for gifts and found that I was spending five minutes turning and half an hour sanding. I could not find my squirt bottle of the sanding sealer mixture, and without thinking I took my spray can of metal rust inhibiting spray and gave the work a light application. It works beautifully.

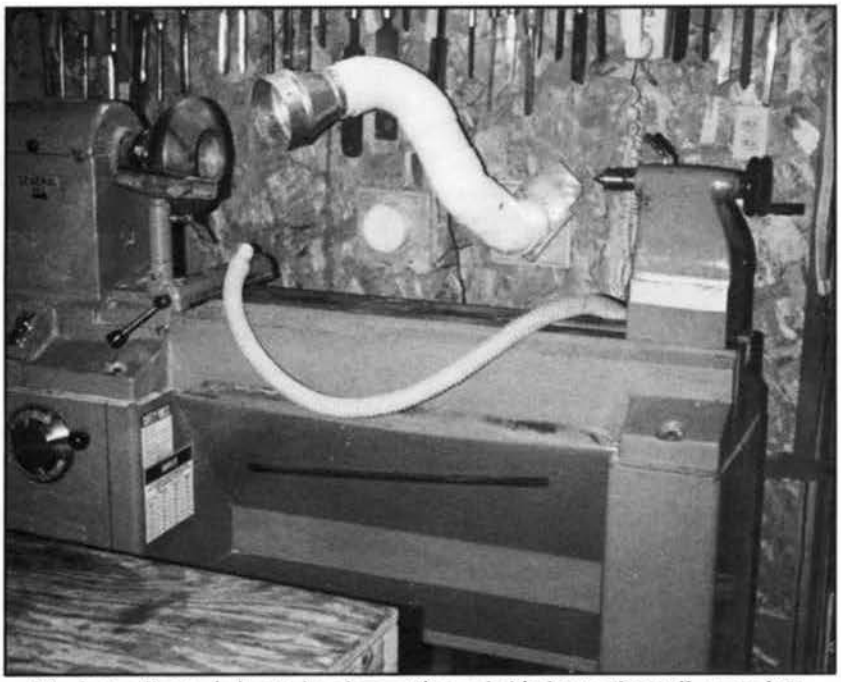
I have used this rust inhibitor for many years. You can buy it in a non-propellant pump can from most industrial supply houses. The brand I use is called Penkote.

This material contains a very light penetrating-type oil, and among the active ingredients is a Alkylsodium-sulfonate--a soap similar to the common detergents. This is active as a wetting agent, and as the akyl chain is very long, it must be acting as a hydrocarbon lubricant. This is similar to sanding sealer itself. I found out that the particulate matter in sanding sealer (which I thought was silica for a filler) is really a metal soap, usually either calcium or sodium stearate. This is a lubricant that enhances sanding.

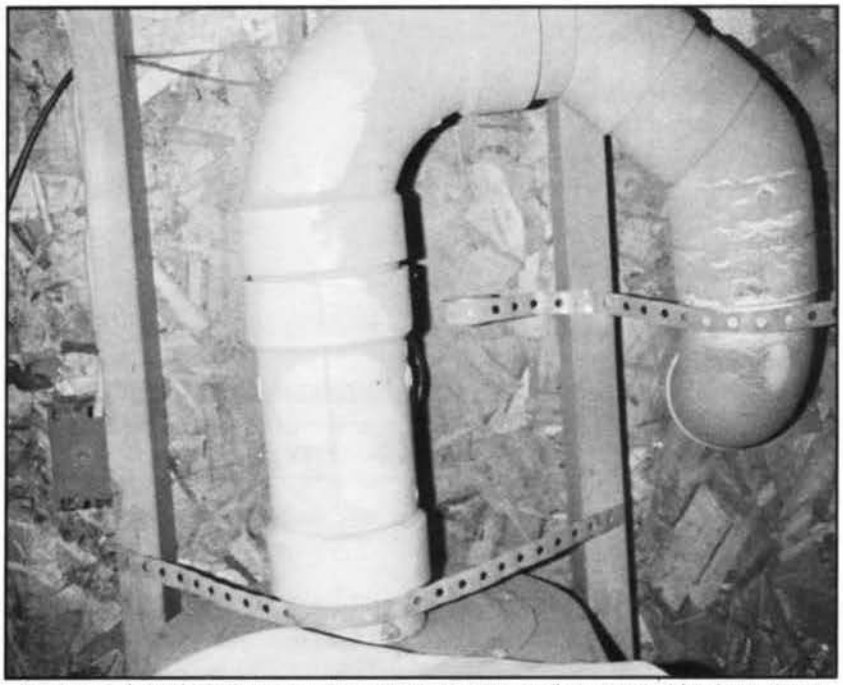
It is easy to use, and a small application goes a long way. A number of my friends in the local chapter have tried this and like it.

Howard J. Francis, Jr., Norristown, Pennsylvania

IMPROVING THE PERFORMANCE OF YOUR DUST COLLECTOR *Ken Bachand*



My dust collector is located under a staircase behind a nearby wall, very close to my lathe yet not occupying valuable floor space. The suction pipe is adjustable and can be moved to the left to another outlet for outboard turning. The small flex hose plugs into an outlet from a central vacuum system. Switches for both are conveniently located on the wall.



Because of the limited space where the dust collector is located, this photo shows only the top of the unit behind the wall. The long loop goes to the alternate outlet that I use when outboard turning. The main duct is just above the top of the dust collector.

Woodturning is a wonderfully fascinating and satisfying craft, and it is becoming more and more popular among woodworkers with small shops. But because the very nature of woodturning results in vast quantities of shavings and dust, it is at the least very messy and at the worst bad for your health.

Wearing a dust mask is a good idea, but I have seen few turners who actually wear them. A good dust collector will greatly reduce your cleanup problems and remove most of the fine dust from the air in your shop. There are some fairly good, reasonably inexpensive dust collectors on the market that work well in even the smallest shops; however, they are not as efficient as they could be.

About four year ago, I bought one of those two-bag, one-h.p. dust collectors you see advertised in catalogs. It really made an improvement over the old fan method of moving dust from one part of my shop to the other. The first time I got a large piece of scrap caught in the blower unit and went in to remove it, I noticed something that caused me to flash back about forty years to when I owned a small racing boat and the things I used to do to get every fraction of speed possible. A tenth of a mile per hour might be the difference between being first or last at the finish line.

What I saw in my dust collector was that the impeller was made from a sand casting and was rough, unlike similar impellers in aircraft superchargers, which are die-cast and smoothly polished.

I remembered that just one little nick in a propeller blade or one small rough spot on the hull of my boat could mean losing a race. I used to file and sand and polish and wax all water-contact surfaces. The principal of pushing a boat over the water and pushing or pulling air through a pipe are essentially the same: any surface that restricts the flow will reduce the efficiency of the system.

I believe that the CFM (cubic feet per minute) ratings of these home-shop dust collectors result from mathematical calculations and not from actual volumetric tests; therefore, I do not believe that they deliver all that they advertise. But even if they do, you can still make them work better. Here's how I improved the efficiency of mine.

Since I already had the impeller out of my dust collector, I decided to clean it

up a bit before reinstalling it. I got some emery cloth (coarse, medium, and fine) and some files and went to work on the rough fins of the impeller. It wasn't the most fun thing I've done. Wearing gloves helped to minimize the knicks and scratches to my fingers and knuckles. I could not make it look like a racing prop or supercharger impeller, but I did get it much smoother than it originally was. When I put the unit back together, I noticed a measurably stronger suction at the business end of the hose. It was clearly moving more air per minute.

Another thing that I quickly learned about my system was that the amount of air it could move dropped off rapidly as it sucked up fine dust, especially when I was power sanding. I found that starting with clean bags every time I began a turning project made the whole system work better. Even if there is only a couple of inches of shavings and dust in the lower bag, the system will not perform well if the walls of the bags are packed with fine dust. Sometimes I find it necessary to empty and shake out the bags just before starting the sanding process. It saves power, improves performance, and leaves you with cleaner air around your work area.

Of course the amount of hose or pipe hooked to your system will also affect its performance. There are mathematical figures for calculating efficiency loss due to pipe size, length, and number of bends, but essentially it boils down to this: the shorter the pipe or hose and the fewer the bends, the better it all works.

However, there is a problem with having the dust collector close to where you are working. It is noisy! Industrial psychologists tell us that excessive and monotonous noise in the workplace can cause problems ranging from reduced performance to emotional distress. Those are things we certainly don't want when we go to our shops to have fun. Placing your dust collector behind a nearby wall will reduce this annoyance and also cut down on the microscopic dust that inevitably passes through the collection bags into the air.

One final recommendation: do not use those clear plastic bags which are now available for most collectors. They only let you know when the lower bag is full, and that's something you should never let happen anyway. They restrict the air flow because they are not porous.

Short of going to the more elaborate and expensive air-cleaning equipment, these little machines are fine additions to your shop. I hope that the information I have shared with you will help you get the best performance from your dust collector.

A version of this article appeared in the February 1992 issue of the "North Carolina Woodturner," journal of the North Carolina Woodturners Association. Ken Bachand is the editor of that journal.

LETTERS TO THE EDITOR

Dear Editor,

I disagree with Warren Wyrostek's vidoe review (*American Woodturner*, Vol. 8, No. 1, p. 36) and will leave it to you the reader to make a decision. A reviewer in the New York Chapter said this of "Fun at the Lathe": "This is a worthwhile video to watch and I hope that it sparks your creativity. I know that it did mine because I found myself having to stop the video and go down into the shop and try some things that I had seen." I have had complimentary reviews in both *Woodshop News* and *Woodwork* on both tapes. Thank you.
--John Timby, Design Engineer

APOLOGIES!

In my thank you message for Dick Gerard (Vol. 8, No. 1), I neglected to mention that along with Sandra Blain, Director of Arrowmont School, Mark Lindquist played a major role in the early conception and development of the 1985 "Vision & Concept" conference where AAW began. For those who weren't in attendance--and there may be a few of you--Mark demonstrated his chainsaw techniques on his monster lathe and also conceived the idea of giving awards for outstanding service to the field of woodturning to Rude Osolnik, Bob Stocksdale, Dale Nish, and Mel Lindquist. My apologies for the oversight.
--David Ellsworth

Dear editor,

Great article and interview with Stocksdale (December 1992 *American Woodturner*).

Your correspondent from Jacksonville is right--the wood is *Astronium graveolens*, a.k.a. goncalo alves, and called here in Costa Rica "ron ron" (not rom rom).

He mentions wood coloration caused by mineral concentration. I've heard the view advanced here that cocobolo is red from iron, and lignum vitae is green from copper.

I like your letter column--I find I want to comment on most of the letters. We have a wood here called Danto that is identical to silky oak, but heavier and reddish. We also have the silky oak (planted to shade coffee) and while its sap is mildly irritating, I find it a fine salad bowl wood.

36 grit? I've been turning professionally for 17 years, and 36 grit is strictly for beginners. I find 40 grit resin-bond clothbacked works just fine . . .

For reasons unknown I wasn't listed in the last membership directory. I'd certainly like to meet woodturners visiting Costa Rica. The phone is 28 18 11.
--Barry Biesanz, Apdo, 47-1250 Escazu, Costa Rica

AAW VANITY CREDIT CARDS

We are pleased to offer to our members the opportunity to carry an AAW logo credit card. The company providing this service is Trans National Financial Services and is a membership benefit company that provides services to association members at competitive prices. Trans National will be contacting our members directly in the near future. We have an agreement with Trans National that our members' names and addresses will be used solely for this program and will not be distributed to any other businesses.

For those AAW members who obtain and use a vanity card, a very small amount from your purchases will be returned to AAW. This amount averages $12 per year per member. All revenue generated will be applied to special projects or to AAW's educational fund.

We are also looking into offering AT&T long distance service which will offer reduced telephone rates to participating members, again, with a small amount being returned to the national organization.

Participation by our members in such programs is strictly voluntary.

RUDE OSOLNIK RECEIVES AWARD

Master Woodturner Rude Osolnik of Berea, Kentucky, was the recipient of the 1992 B. Hudson Milner Award, the highest honor awarded by Kentucky Governor Brereton Jones at the "Sixth Annual Governor's Awards In the Arts," ceremony held at the Owensboro Museum of Fine Arts on February 19, 1993. As many members of the American Association of Woodturners know, Rude has been a major figure in the American studio woodturning movement. Throughout his many years as a woodturner, he has helped shape the direction of contemporary woodturning. He is also one of the country's most important craftsmen. Congratulations Rude!

AAW POSTER

David Ellsworth, past president of AAW, is in the process of designing a poster for the American Association of Woodturners, and he needs your help. Please send good quality, ***glossy color prints, either 4 x 6 or 3 x 5*** for possible inclusion in the poster. Send your prints to: Mary Redig, AAW Administrator, 667 Harriet Ave., Shoreview, MN 55126.

1993 DIRECTORY

Do you want your business name listed in AAW's annual membership directory? If so, you need to upgrade from a general membership to a business membership. Contact Mary Redig at 612/484-9094. Fax. 612/484-1724. 667 Harriet Ave., Shoreview, MN 55126.

LOCAL CHAPTER ACTIVITY

Chris Davies

The Mid Penn Woodturners were so impressed with the charitable projects taken on by the Utah Association of Woodturners and the Central Oklahoma Woodturners that they decided to undertake a project of their own.

With a committment from several of the group's members and a contact at Geisinger Medical Center, the program was started. The project culminated with a decorated Christmas tree where the woodturned items (ornaments, weedpots, bowls, and candle sticks) were awarded at the completion of a raffle. We donated the proceeds from the raffle to the Children's Miracle Network Telethon.

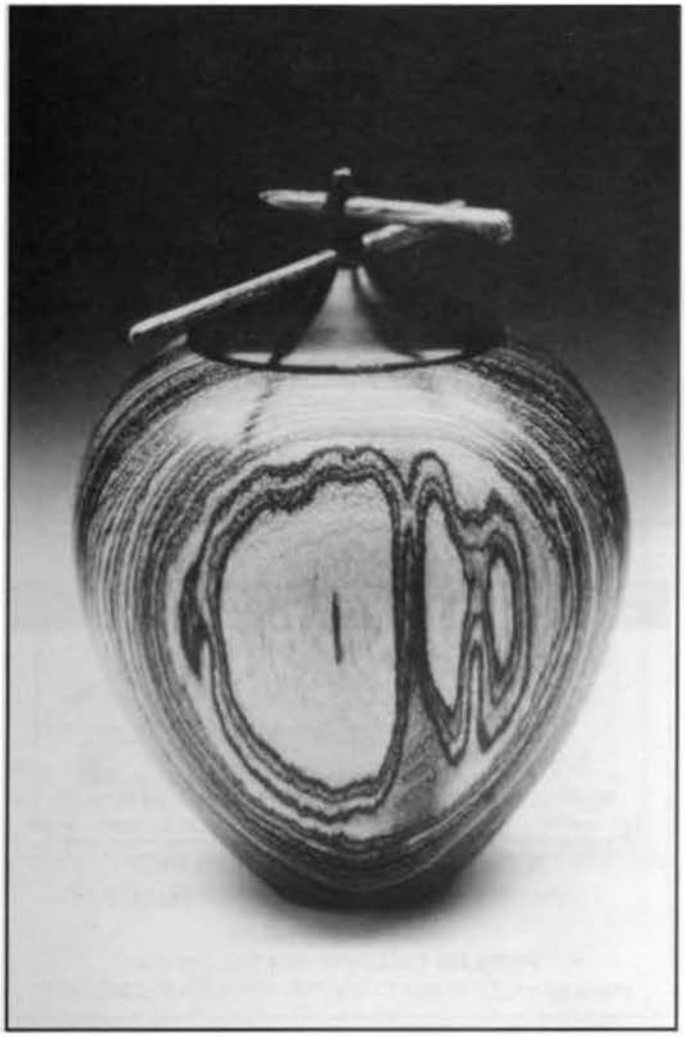
This program seemed to improve communication within our group, as well as bring a sense of accomplishment to the woodturners.

If you are considering trying a similar program, you may benefit from the experience we gained. Pre-planning of the event is very important so that all items are ready on time. Communication within the group is essential for the event to succeed. Coordination with the charity is a must so that they understand what you can do and can therefore best utilize the turned items in their fundraising program. It could be a raffle, bidding, or retail selling of your turned items.

We look forward to this becoming a yearly event that will continue to grow with time and increased membership. If your turning group is looking for a worthwhile endeavor, a project of this type is a winner.

Chris Davies is a member of the Mid Penn Turners in Pennsylvania.

Craig Lossing, Marine On St. Croix, Minnesota, redwood burl, maple, 7" dia. x 5"

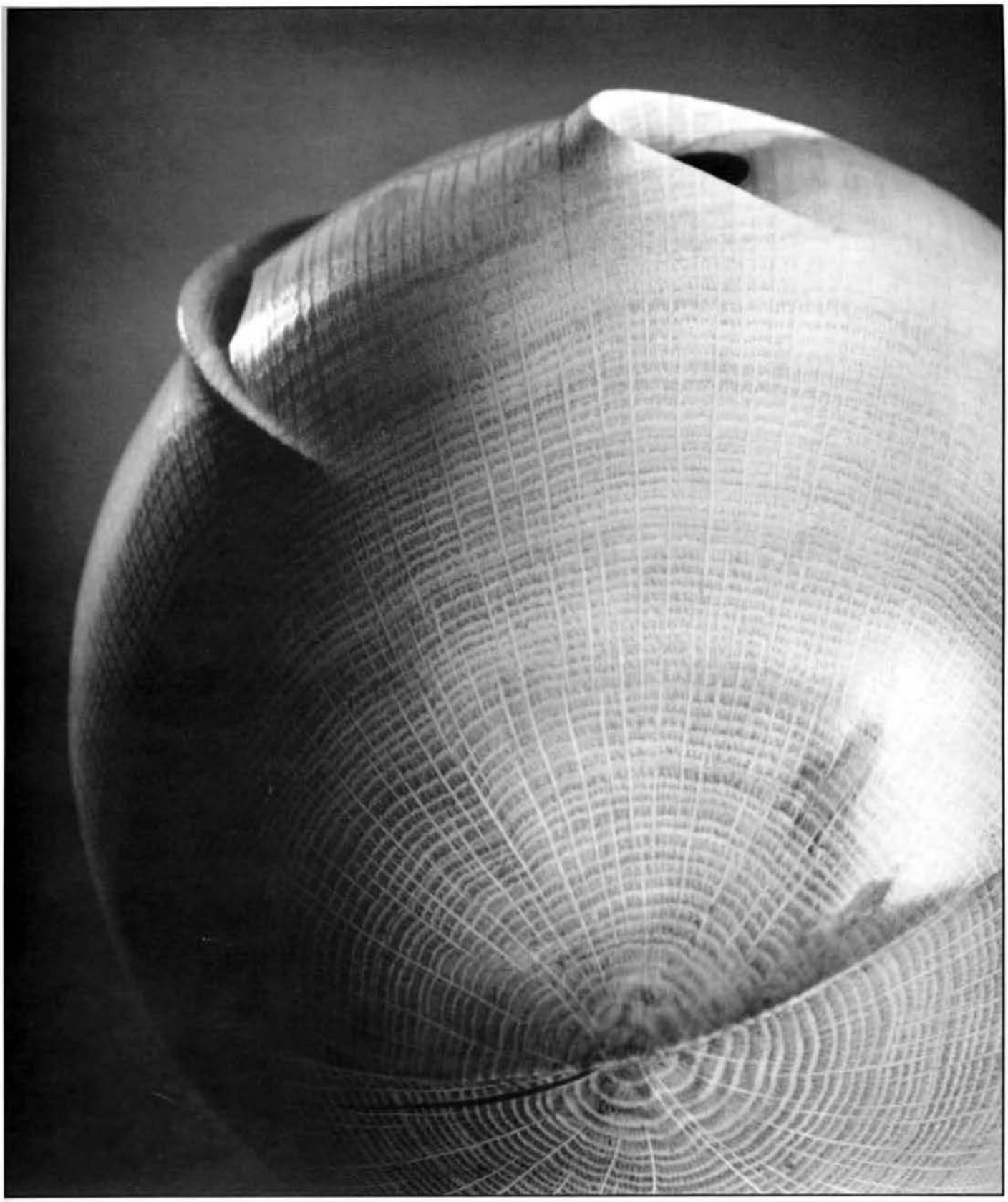


Craig Lossing, bocote, ebony, 2 1/2" dia. x 3 1/2"

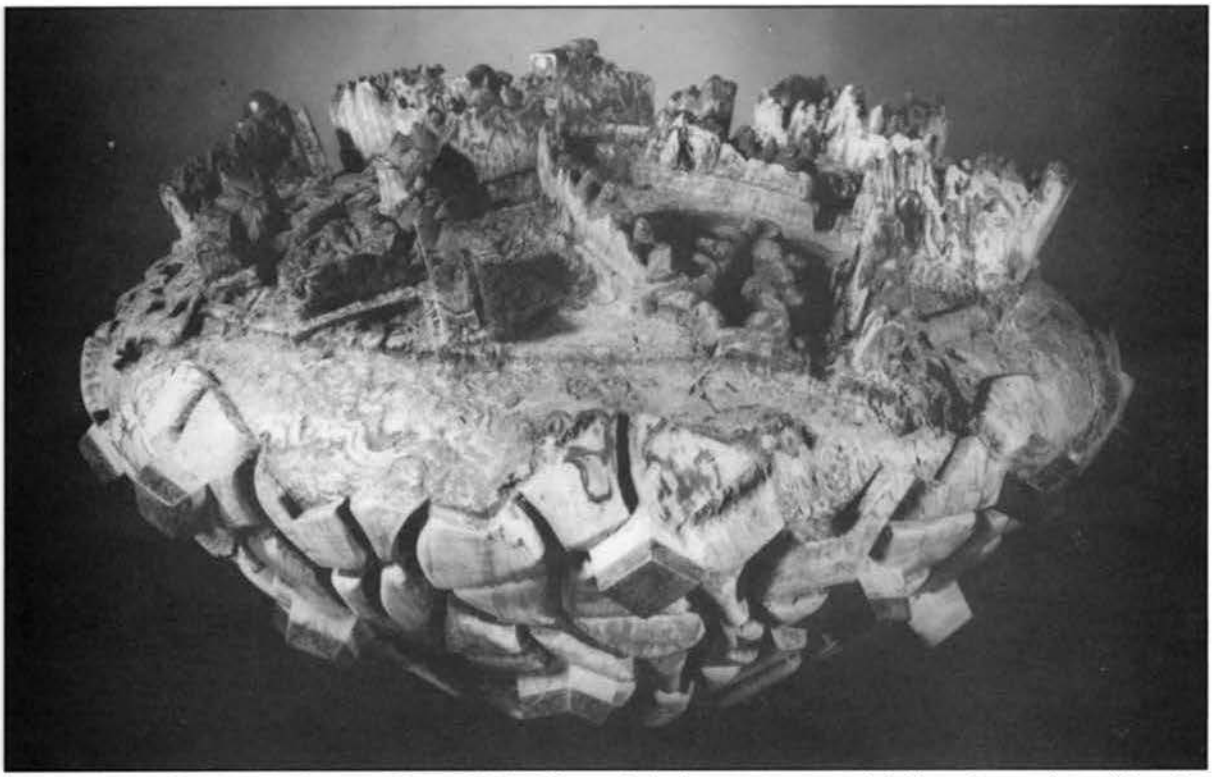
Ron Fleming, "Earth Offering," buckeye burl, 19" dia. x 9" h. x 22" l.

Ron Fleming, "Caress," Norfolk pine, 9" dia. x 11"

Lincoln Seitzman, "Apache Water Basket Illusion," 8" dia. x 10"

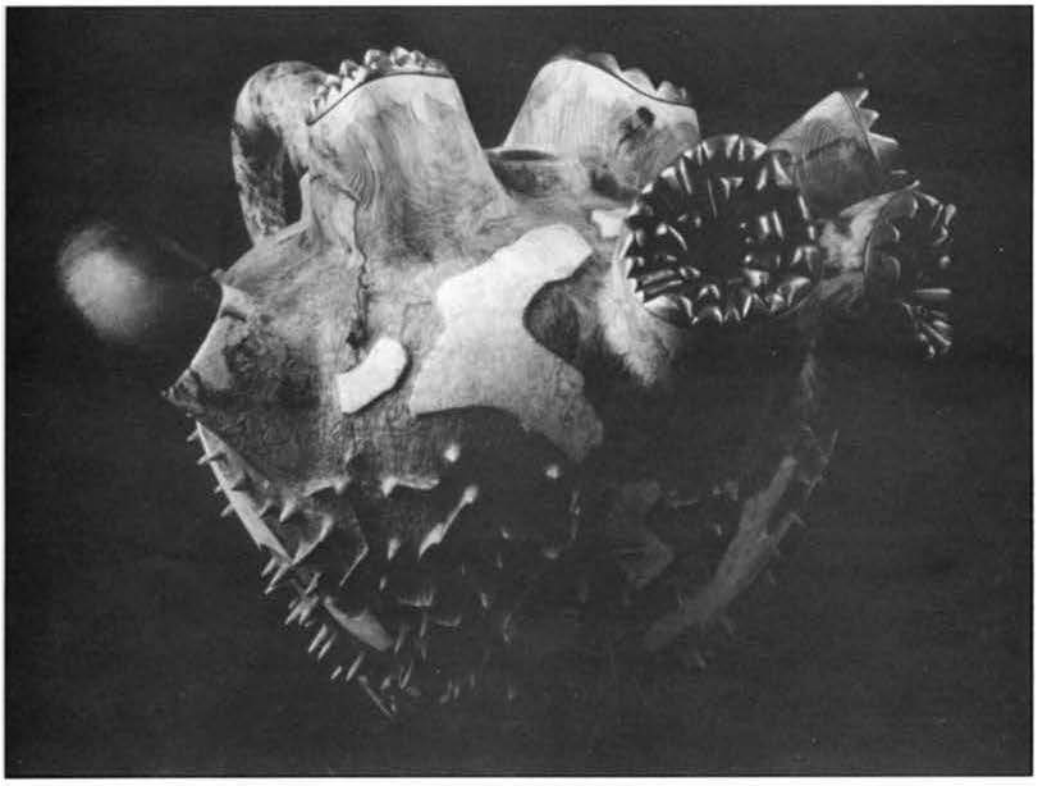


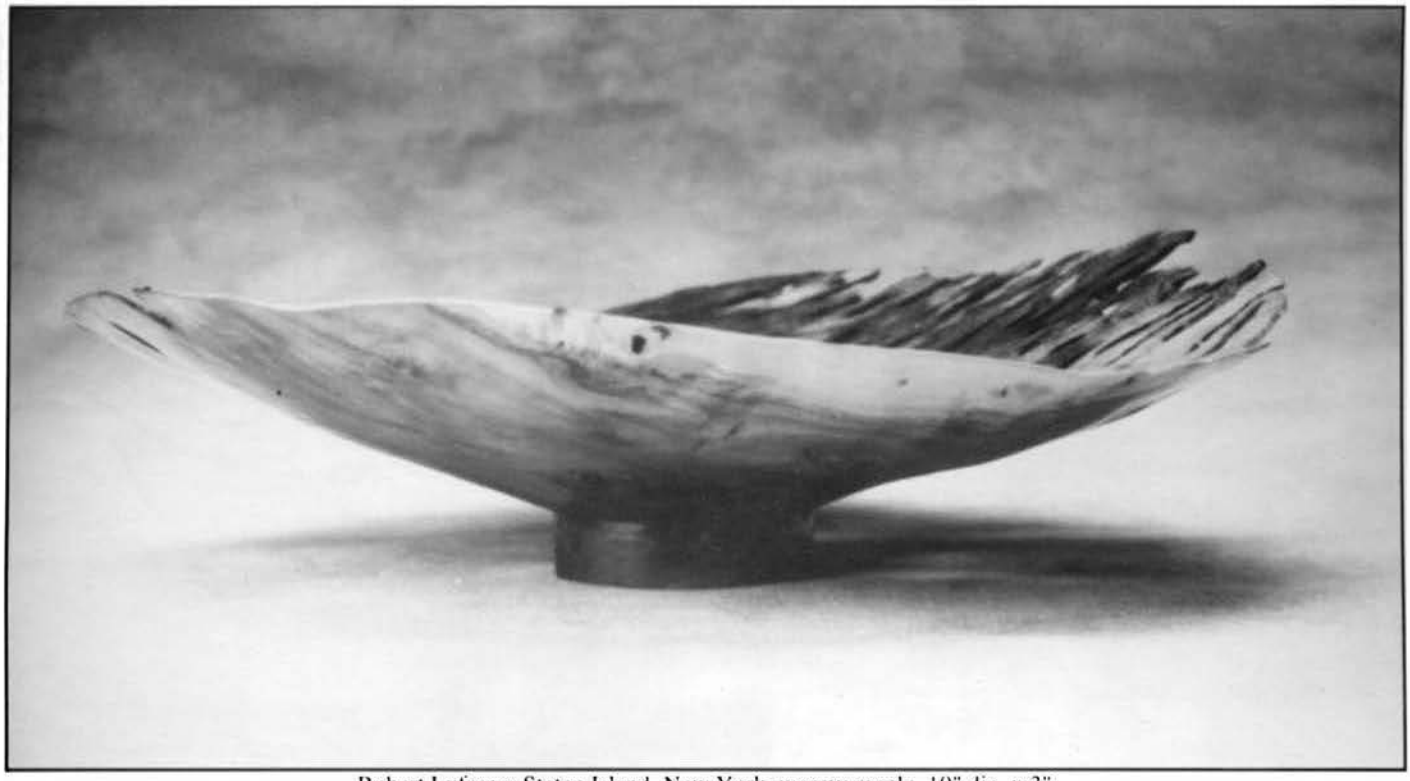
David Ellsworth, "Mo's Delight," white oak, 8" w. x 7 1/2" l. x 7 1/2" h.



Hugh McKay, Gold Beach, Oregon, "Squared II," 1993, maple burl, soapstone, turned, hollowed, carved, sandblasted, and polished, 19" dia. x 12 1/2"

Hugh McKay, "Heart," 1993, madrone burl, cast lead, soapstone, turned, hollowed, carved, sandblasted, bleached, polished, and sand cast, 24" x 22" x 19" h.





Robert Lufrano, Staten Island, New York, wormy maple, 10" dia. x 3"

Paul Ferrell, "River Pearl," sugar maple burl, 12" dia. x 7" courtesy Kentucky Art & Craft Gallery

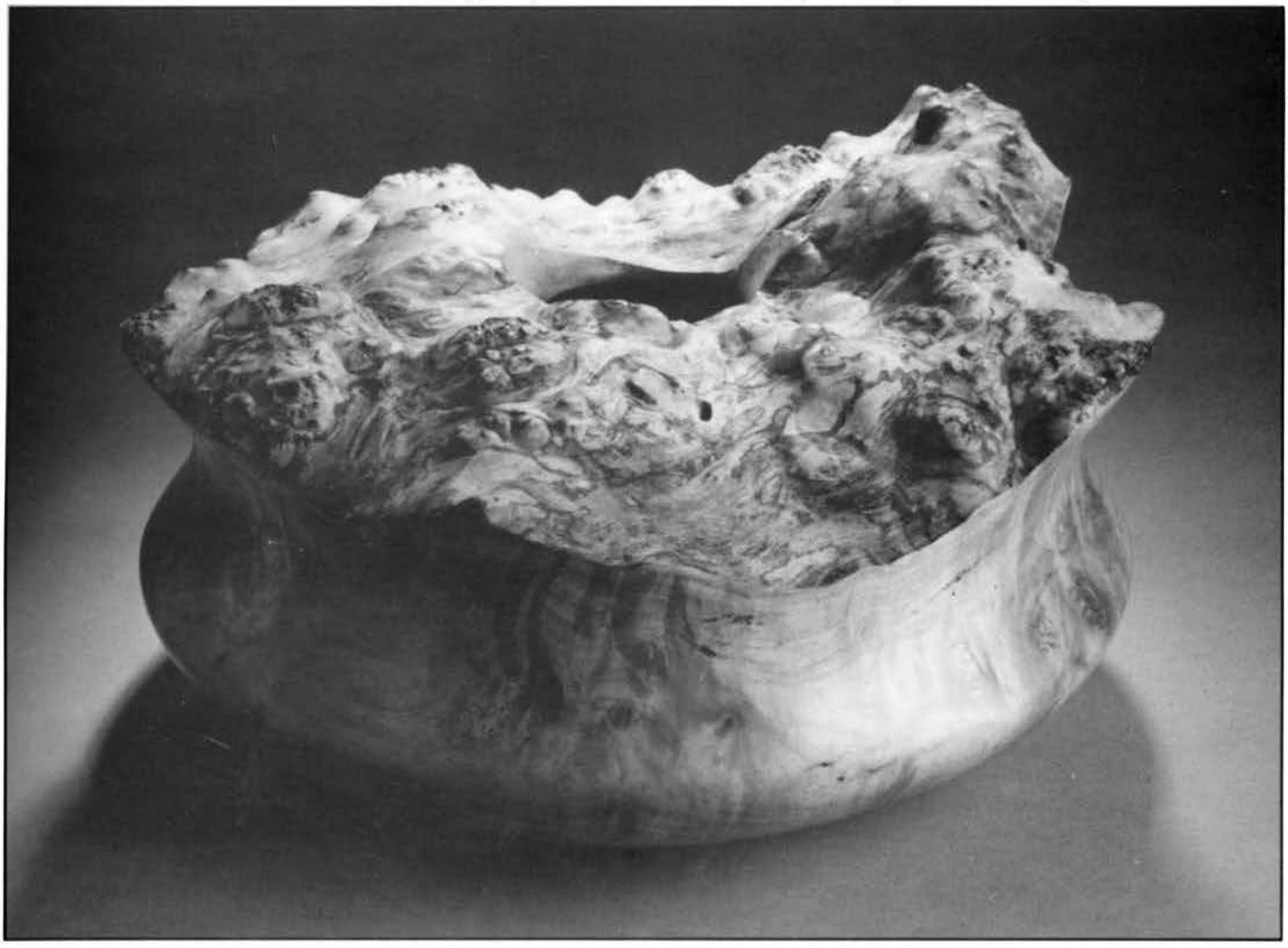


photo by Geoffrey Carr

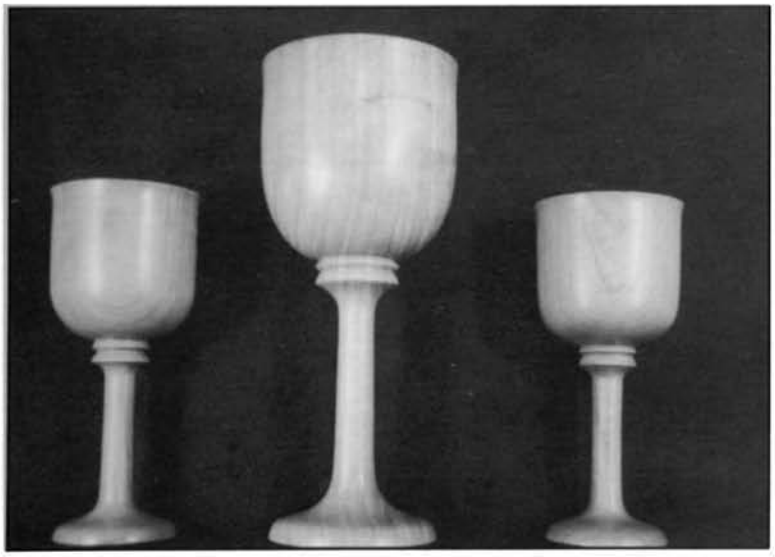
Robert J. Lentz, "Pueblo Tradition," spalted crabapple, 10 1/2" dia. x 5 1/2"

Robert J. Lentz, 1990, "Reaching Out," spalted American beech, 8" dia. x 8"

Donald V. Oetjen, Sanford, North Carolina, "The Wave," cherry burl, 6" dia. x 4"

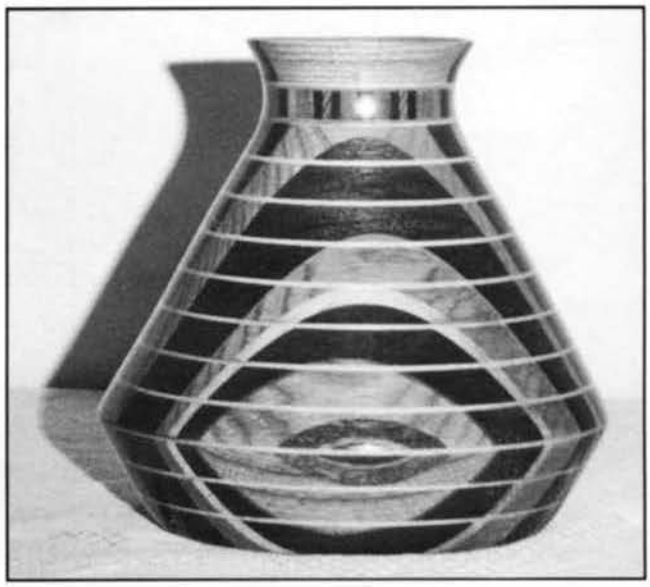
Donald V. Oetjen, "A Bird in the Hand," rhodendendron root, 7 1/4" dia. x 6"

Joe DeVries, perfume bottles, l. to r., padauk and spalted maple burl; maple burl and E. Indian rosewood; cherry and maple

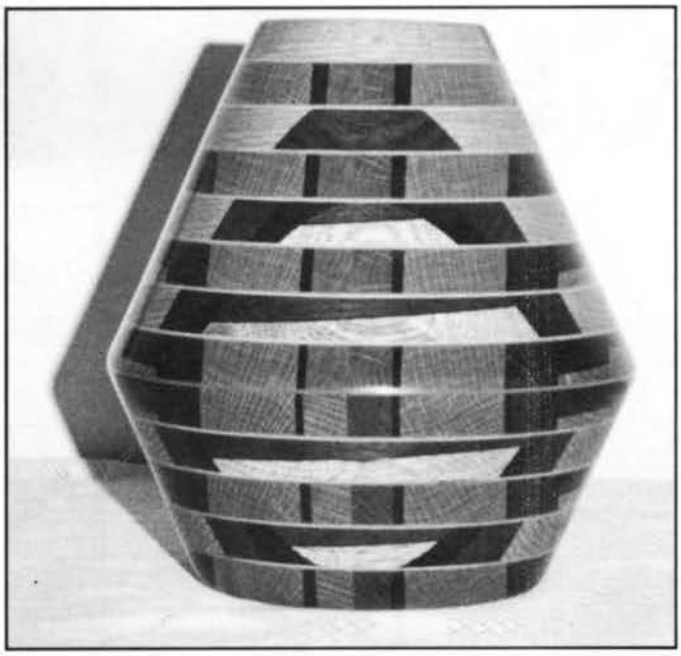


Joe DeVries, goblets, maple

Alexander Schelkum, Troy, Ohio, madrone burl with handles turned, mahogany lid, 8 1/2" dia. x 5"



Paul Witte, Ft. Wayne, Indiana. The three vases on this page were created from flat stock using a Ring Master.

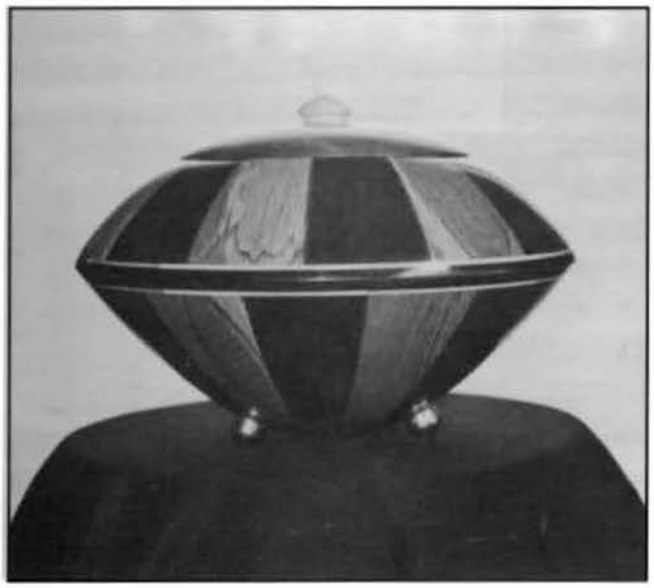


Rhodes Batson, Lexington, North Carolina, pecan, 5 3/4" dia. x 7 1/2"

Rhodes Batson, mulberry burl, 8" dia. x 4 1/4"

Rhodes Batson, worm spalted maple, 10 1/4" dia. x 6"

Sumner Freeman, Cornwall, New York, padauk, oak, walnut, mahogany, 9" dia. x 5"



Bill Giese, Eureka, California, tan oak, chakote-kok, wenge, and walnut; tauga nut knob, 11" dia. x 7"

VIDEO REVIEW: *Signatures in Wood*

***Signatures in Wood**, 1993, 33 min., RAM Productions, P.O. Box 13, Hampden, MA 01036, 413/566-2253, $34.95 plus $2 S&H.*

Signatures in Wood is a new video just released from RAM Productions. It is written and narrated by Betty Bender and produced by Pamela Vogt. It is an educational video as opposed to being a teaching video.

The focus is on three fabulous women turners who each convey a love for the art through narration as well as through visual footage. As they discuss their work, Betty Scarpino, Indianapolis, Indiana, Judy Ditmer, Piqua, Ohio, and Michelle Holzapfel, Marlboro, Vermont, are an inspiration to the viewer. There is an abundance of talent in these turners, and their techniques vary greatly.

While doing conventional faceplate work, Betty thinks about the shapes her pieces will have, the perfection they must possess, and respect for the medium. She talks about galleries and how to make an effective presentation.

Judy's jewelery, miniatures, and sculptural pieces are highlighted. The March 1991 *American Woodturner*, carried a poem Judy wrote, "The Song of Wood." You can envision the words of the poem while watching Judy turn. She speaks of how she got started in turning, the difficulties of earning a living at it, and what inspires her.

Michelle creates wonderful pieces using a metal lathe as a starting point. Her work makes you realize that there really is no limit to the creativity that one can envision as well as make happen. Along with footage of Betty's and Judy's finished pieces, there are shots of some of Michelle's unbelieveable creations such as "Raggedy Ann," "Birthday Cake," and "Knitting Basket." Michelle introduces us to carvings on turned pieces and also talks about the respect that she has for wood.

This video is pure viewer enjoyment --it is not intended to be a "technique" video. The thought process that went into its creation is, itself, truly a statement in creativity.

With the excellent quality of the videotape, as well as the exceptional narration and the superb music, this video is a must have for all turners. Everyone involved with the creation of *Signatures in Wood* deserves praise for it. My own "thank you" is extended to them for the inspiration that I feel when watching the video over and over and over again.

Dave Hahn is an amateur turner, a charter member and vice president of Hudson Valley Wood Turners, and a manager for Woodworking Unlimited/Shopsmith in New York.

American Association of Woodturners
667 Harriet Avenue
Shoreview, MN 55126
(address correction requested)

Second Class
Postage
PAID
at St. Paul, MN
and additional
mailing offices

Lincoln Seitzman, "Apache Olla Basket Illusion," 14" dia. x 21" h.,
guatambu wood with inked design