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magazine

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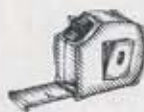
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JULY 2006

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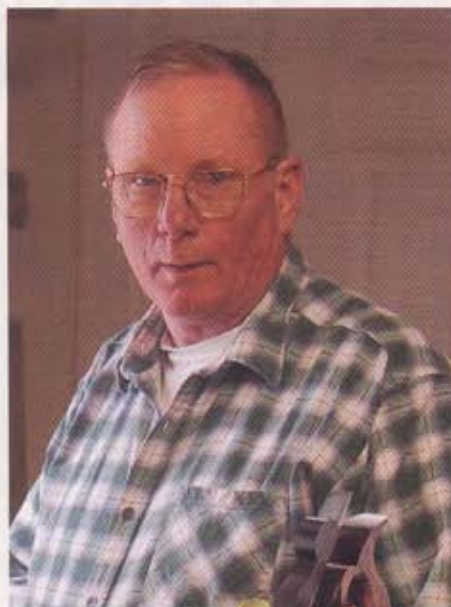
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CUTTING IN

Mashed potatoes and small change

My wife and I once had an entire high school basketball team over for dinner. While the school was small (under one hundred students), those boys had the standard high school athlete appetites. I wasn't too worried about what to fix, nor surprised at how much they ate. I can still picture one of the boys filling his plate to the edges with mashed potatoes and nothing else, and then finishing them off. He waded through the green beans, the roast, and yes, the gravy, in the same fashion. He didn't drink his iced tea until the end, and then all at once.

It has often occurred to me that preparing and presenting a magazine for its readers is a lot like preparing a meal. A meal can be easy if you know what your guests like (or if you're feeding high school velociraptors). Imagine the challenge to cook for a group that you know very little about.

We've been cooking for 11 issues now and are only beginning to understand the eating habits of our guests. Surveys, letters and conversations with readers, writers and advertisers have provided us with valuable information to help put together a great menu.

Which brings us to "change."

"I cannot say whether things will get better if we change.
What I can say is they must change if they are to get better."

George Christopher Lichtenberg
1742-1799

Obviously, George had it going on.

In the interest of improvement, prepare for some changes. Appropriately enough, this issue is about trying some changes, and using small things to do it.

Changes we have made to this issue (driven, in part, by reader input) include adding an extra project, and making more of the projects less complicated. We've included more photos of readers' projects. We were so excited about the response to the "Think Small, Win Big" clock contest that we determined to publish as many photos of entrants, winners or not, as we could. You will definitely find inspiration for your own clock projects among those. To meet space needs, we also downsized some of the departments instead reducing the size of the more popular projects.

Your feedback about the effectiveness of our changes will help us to, you guessed it, make even more changes. Even the changes will change, and may change back . . . and now I need to think about changing how many times I used the word . . . ummm . . . change.

One more, and that's all. I promise.

Did I mention small changes?

Consider the small clock contest projects, the miniature inlaid scenes on the guitar in Benchmarks, the bonsai table, the pen turning article, the piggy bank and Kerry Pierce's article about the small planes.

Coincidence? I think not.

Rest assured that it is our goal to present you with a menu that will satisfy your appetite. For those of you who happen to be fond of just mashed potatoes, you have an open invitation to keep coming back until potatoes make it back on to the menu.

Ken Brady
Publication Manager

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BENCHMARKS

\$195,000 guitar for sale, AAW symposium, and Sam Maloof at 90. By Sharon Hambrick



Harvey Leach cuts delicate, detail-rich inlays such as these by hand.



Fancy fingerwork

WHEN IS A GUITAR WORTH \$195,000? When it's a museum-quality, one-of-a-kind instrument crafted by C. F. Martin & Co. featuring Harvey Leach's intricate inlays — and when it's for sale.

Jeff Sullivan, vice president and general manager of First Quality Music of Louisville, Ky., the Martin dealer selected to sell the Harvey Leach Custom Cowboy guitar, believes the unique instrument will become more valuable over time. "I believe it's going to be a million-dollar guitar one day," he said. "It's not really a player;

BENCHMARKS

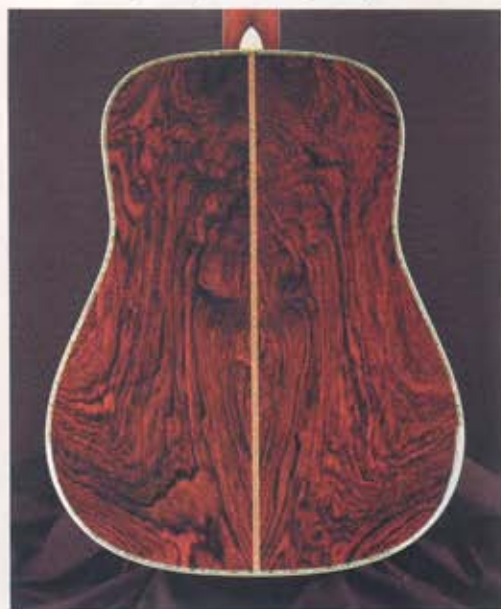
it's more a piece of history."

C. F. Martin & Co., the oldest surviving maker of acoustic guitars in the world, assigns a serial number to each guitar it builds. At #600,000 the company began marking major milestones with one-of-a-kind, museum-quality guitars, said Dick Boak, who handles artist relations and limited editions for the company. Milestone guitars are not sold; they are displayed in the company's museum. However, in conjunction with the millionth milestone guitar, Martin also commissioned #999,900, the first in a series of one-of-a-kind guitars to be sold.

Harvey Leach entered the picture in 2003 when he met Martin CEO C.F. Martin IV at a trade show. What impressed Martin was Leach's technique of using paper-thin pieces of pearl shell glued over parts of an inlay, appearing reflective but still transparent.

Soon after that meeting, Martin commissioned Leach, who also builds guitars, to do the inlay work for #999,900. The result is a work of art – a guitar showcasing more than 1,350 inlay pieces in six western scenes that decorate the headstock, fretboard and pickguard plus smaller inlays on the bridge. Leach estimates he worked on the inlays at least 300 hours over a six-month period.

Leach's specialty is cutting inlays with as much detail as possible without using any engraving. "All inlays are cut with a jeweler's saw," Leach said, explaining that good lighting and magnification are also essential for the detailed work.



visible through its soundhole.

Leach is amazed at his good fortune. "It's just a fantastic opportunity for me. I've got my name on a Martin guitar. For them to be willing to do that, I thought, was just an amazing thing. It gave me a lot of credibility, and it also gave me a lot of exposure on a level that money can't buy."

He continues to do inlays for at least one, sometimes two, custom Martin guitars a year. Leach said Martin's budget allows him to do much more elaborate inlays that constantly push the boundaries of his work.

In addition to his independent inlay work, Leach builds guitars at his Cedar Ridge, Calif., business, including a new full-size fold-up guitar for travel and a signature Harvey Leach guitar. To view more photos of Leach's inlay work, visit leachguitars.com.



This leather-bound portfolio containing handwritten letters documenting the guitar's history, Leach's signed design sketches and color photos of the inlay work come with the guitar, which can be viewed at fqms.com.

The pearl shell technique – nicknamed "smoke and mirrors" by someone at Martin – figures prominently in the Cowboy guitar, especially in the saloon scene on the pickguard. Leach created a mirror behind the bar that appears to reflect the bartender's back, the ceiling (complete with chandelier), and swinging doors at the entrance. He also used the technique for a saloon side window, glass for a framed photo of company founder C.F. Martin that hangs on the wall, and for the train smoke in the headstock inlay. Leach said he perfected this technique on a guitar he made for his brother that features inlays about the Sept. 11 attacks.

An example of Leach's minute detail work is the back brace on the tiny campfire scene guitar which is

Woodcraft Magazine wants to receive information on news and events of interest to woodworkers. Send your news items and high-resolution photos, along with your contact info, to:

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Happy birthday, Sam

At 90, Maloof breaks ground for new arts center

Surrounded by 400 family members, friends and guests from several states and Sweden, Sam Maloof blew out birthday candles and shared cake and hamburgers with his guests at a January cookout marking his 90th birthday. Later that day, he broke ground for the \$1.9 million Maloof Arts and Educational Center, the newest addition to the Sam and Alfreda Maloof Foundation's facilities located on the six-acre Maloof compound at Alta Loma, Calif.

A \$4 million fund-raising campaign is under way to finance the building's construction and endow programming for the center, which will house exhibition halls and educational facilities that will provide a gathering place for lectures, demonstrations, seminars and exhibits. According to Roslyn Bock, Maloof's assistant, about \$1.7 million had been raised in pledges and gifts at the time of the groundbreaking. For more information or to make a contribution, visit malooffoundation.org.



Also for his birthday, the Woodworkers Guild of Southern California gave Maloof wood boxes featuring designs that pay tribute to Maloof as an artist and a person.

Maloof's upcoming activities include: throwing out the first ball at the San Diego Padres baseball game on July 15, his workshop at Anderson Ranch in Colorado on Aug. 19-20, and addressing the Western Design Conference in Cody, Wyo., on Sept. 20.

A 90th anniversary retrospective of Maloof's work is on display at the Mingei International Museum in San Diego through Oct. 15.

New site streams free shows for woodworkers

WOODCRAFT SUPPLY is the exclusive retail sponsor for The Woodworking Channel (TWWC), which debuted on March 24 at thewoodworkingchannel.com. The Woodworking Channel is the first Internet TV broadcast network for woodworkers and features a diverse collection of woodworking-related video and educational content. The free streaming video service is available worldwide 24 hours a day, seven days a week.

Viewers may now enjoy shows previously unavailable anywhere but on overseas networks or via subscription-based services. Programming includes: "The American Woodshop," "The Router Woodshop," "The Great British Woodshop," "A Woodworking Experience with Sam Maloof" and several more. TWWC president and co-founder Reed Smith explained, "We are, literally, searching the globe to find as much video woodworking content as possible to bring to the viewer. What we don't find, we intend to help produce." TWWC is for woodworkers of every level, he said.

Site users can also offer tips, techniques and product knowledge, use the e-commerce marketplace and get deals on woodworking products.



BENCHMARKS

AAW marks a milestone

Woodturners to celebrate 20 years of sharing

Hundreds of woodturners will gather June 22-24 in Louisville, Ky., for the American Association of Woodturners' 20th annual national symposium — a showcase of woodturning exhibitions, demonstrations and panel discussions, plus other events.

A nonprofit organization with more than 11,000 members organized into 253 local chapters, the American Association of Woodturners (AAW) provides education, information and organization for people interested in woodturning. Turners attending the first national woodturning symposium in 1985 agreed to form a national group, and the AAW was incorporated in April 1986.

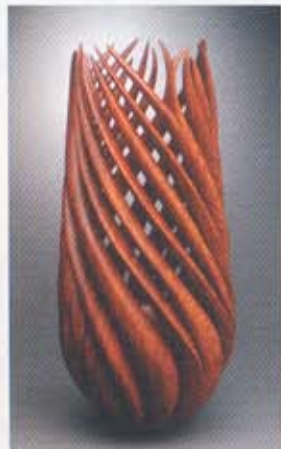
One of three symposium exhibitions, "Turning 20 – Still Evolving," will feature the works of 22 artists who were studio turners when the AAW formed. Each artist contributed three pieces created in 1986, 1996 and 2006. The Kentucky Museum of Art will host the anniversary exhibit as well as one featuring the works of Kentucky native Rude Osolnik, who died in 2001. "Step Up to the Plate," a juried and invitational exhibit of baseball-related pieces crafted by members, will be on display at the Louisville Slugger Museum through Sept. 4.

The heart of the symposium will be more than 150 demonstrations by 30 of the best regional, national and international woodturners, who will explore multiple facets of the art of turning wood.

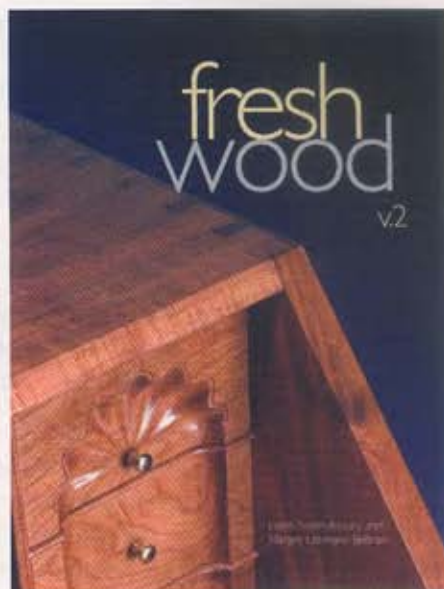
Three panel discussions will focus on: contemporary woodturning's history, present state, and events that may impact its future; the use of icons, symbols and aesthetics from other cultures in woodturning; and prior art as a catalyst for ideas that turners can evolve into their own work.

A vendor trade show, instant gallery, youth program, and charity projects are among the many other scheduled attractions.

For more information, visit woodturner.org.



Bill Hunter's "Kinetic Garden" and Michael Hosaluk's "Bowl" are part of "Turning 20 – Still Evolving," an AAW symposium exhibit. Hunter turned and carved "Kinetic Garden" from cocobolo (photo by Alan Shafer). Hosaluk created "Bowl" from turned maple, acrylic paint, milk paint and a ballpoint pen.



New volume features student design winners

"FRESH WOOD, VOLUME 2"

offers a new look at ways to design and craft wood into fine furniture. The art book presents the winning pieces by the 58 finalists in the 2005 Student Design Contest held in conjunction with the Association of Woodworking & Furnishings Suppliers Fair.

Mitra Publishing Group compiled the volume, including color photos that reveal the intricate details of the award-winning works with comments by the student furniture makers regarding design challenges and innovative techniques.

For more information or to purchase the \$45 volume call (626) 836-5506 or visit freshwood2005.com.



ASK THE EXPERTS

Planely Perplexed

Q: I bought rough-cut lumber and planed one face of a board flat on my jointer, then ran it through my thickness planer to get my desired thickness. Much to my dismay, my wood was no longer flat. It bowed after running it through the planer. I know it was flat and true on the one face before I started. This has happened more than once, and I don't understand why.

Tim Rinehart responds:

I am assuming you have flat-sawn material, which has a natural tendency to warp, twist, bow, or any combination thereof when surfaced. Natural stresses in the wood are relieved when you change its thickness, whether by resawing, planing, or jointing a face. The kiln-drying process can induce these stresses in the wood even when done correctly. When done poorly, it can cause internal defects which will be revealed when you attempt to machine your wood. When you machine fresh surfaces, they release moisture rapidly, resulting in unwanted movement.

If you plan to work with unsurfaced material, I recommend the purchase of a moisture meter. With a little research, you can learn the appropriate moisture content for a given piece of wood relative to the humidity of its environment. Also, find out which lumber dealers have the best kiln-drying processes by talking to other woodworkers in your area. Use your moisture meter to check your wood at the source, and once again before you attempt to use it. Store your wood correctly stacked and stickered. Cut your material to the lengths (with a little extra!) you need for your project first. The shorter the piece, the less the natural movement will affect your material when you change its thickness.

And finally, don't give up. Just remember wood is a natural material that you have to work with, not against.

— Tim Rinehart is a contributing editor to Woodcraft Magazine.

A Natural Progression to...



Knobs and Finials and Shakers ... Oh My!

Q: What's the easiest way to finish small parts such as knobs, finials, and shaker pegs?



Bob Flexner responds:

If the parts are to be attached to a larger object, it's almost always better to finish them separately. Not only is it quicker, but you get better results because it's easier to get the finish distributed evenly and avoid runs. If there are tenons or other joining surfaces that will receive glue, be sure to protect them with masking tape.

For staining, it's usually easiest to dip the parts and then wipe off the excess stain using a cloth. This is also the case with the wipe-on, wipe-off finishes: linseed oil, tung oil, oil/varnish blend, wiping varnish and gel varnish.

Because the parts are small, the dipping method can also be used with film-building finishes as long as you remove the final drips from the parts before placing or hanging them to dry. The trick is to have some way of holding the parts without touching the finished surfaces. You can insert screws into knobs or grip the tenons of shaker pegs and finials, for example.

If you are brushing or spraying a film-building finish such as varnish, shellac, lacquer or water base, you will need to hold the parts in place while applying the finish. Here are several suggestions for doing so:

- Attach the parts to scrap wood using double-stick tape or the screws that will be used to mount them. If the parts have tenons, insert them into holes you drill.
- Place the parts on a "bed" of nails or dry-wall screws driven through a thin sheet of plywood.
- Stretch a metal screening (thicker metal is usually better) across a wooden frame and insert the parts into cuts in the screen or holes cut slightly smaller than the parts.

— Bob Flexner is author of *"Understanding Wood Finishing,"* now in its second, fully revised edition.

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PROJECT NUMBER 46



A GREAT START FOR BASIC PEN TURNING

BY TOM HINTZ

Pen turning is hugely popular because it is easy and fun. But there are economic reasons as well. In the world of buying lathe accessories, pen-turning equipment, even the good stuff, is cheap.



If you own a woodturning lathe, you have the right one for turning pens. Any lathe from a benchtop mini to the biggest floor model will do nicely. Also, turning tools that handle spindle work will at least get you started with turning pens. Most turners do not feel they need special or miniature tools to make any except highly specialized pens.

Most woodworkers have lots of pen blanks languishing in the scrap bin. Because pen blanks are usually $\frac{3}{4}$ " square and under 3" long, many cut-offs can cheaply and easily be cut into blanks (**Fig. 1**).

When cutting your own pen blanks, keep in mind that the grain should run along the long axis. This makes turning the blank easier and reduces its tendency to split.

Pen-sized blanks, pre-cut from

exotic woods, are available at most outlets that handle pen supplies. Because pens are so small, using exotic woods is surprisingly affordable.

The hardware

You can set up your shop to turn pens for less than \$150, if you buy all of the associated tools used in pen turning. (You can spend even less by improvising or building your own.) You can use the same tools to make other projects like letter openers, magnifying glasses, mechanical pencils, perfume atomizers and more.

The one piece of hardware you will have to buy is a pen mandrel. You will choose between fixed- and adjustable-length models with prices ranging from \$10 to \$25. The main advantage of the adjustable version is not having to hunt

down and add or remove spacers when you vary the lengths of your pen barrels.

A mandrel mounts in the lathe spindle with a Morse taper. The other end of the mandrel shaft has a cone-shaped recess that accepts the point of the tailstock live center. Supported on both ends, the mandrel runs steadily even at higher speeds (**Fig. 2**).

All of the metal parts for building a pen come in a kit, including the ink refill. The kits include two (usually) brass tubes to which the wood blanks are glued. The remaining metal parts are pressed into the tubes during final assembly (**Fig. 3**).

Equally complete parts kits are available for all of the projects that can be produced with pen-making tools. Pen kits generally cost between \$4 and \$6.

The key to turning a wooden bar-

rel that matches the diameter of a pen kit's metal parts is using a bushing set designed for that pen style. These metal sleeves have a common inside diameter that fits the mandrel, and the outside dimensions are designed to match the metal parts for specific pen kits. Most bushing kits have three pieces, one for either end and another that is mounted between the barrels on the mandrel (**Fig. 4**). Some bushing kits also have a ring that floats on the center bushing to be used for sizing a tenon cut in the upper barrel for

a decorative ring.

Bushing kits cost \$3 to \$5 and can be used to make dozens of pens. The biggest problem is keeping track of which bushings go with what pen style. Wise pen turners label their bushing kits with the names or numbers of corresponding pen kits.

For this article, I built a Euro Style Pen (twist action) using the European Bushing Kit, both from my local Woodcraft store. This makes a good "learning" pen, as it employs a set of techniques that are common to making many other styles.

Preparing the blanks

An essential first step is getting the wood even with and square to the brass tubes. Cutting the wood blanks approximately $\frac{1}{4}$ " longer than the brass tube leaves enough material for cleaning up with a barrel trimmer, ensuring that the ends are perfectly

flat and square to the tubes (**Fig. 5**).

To drill the hole through the center, you need a way to hold the wooden blanks on end, square to the drill bit. Vises for doing just that are available for about \$42, but I decided to make my own from a standard drill press vise. I removed the metal jaw inserts and used them as templates to drill mounting holes in a pair of 4" x $2\frac{1}{2}$ " x $\frac{3}{4}$ " hardwood replacements. After attaching the wooden jaws to the vise, I closed the jaws and used an $\frac{1}{8}$ " brad-point bit (in the drill press) to drill a 2" deep hole, centered on the seam between the faces. This produces a shallow groove on each jaw face that is perfectly square to my drill press.

Clamp the pen blank with opposite corners in the drilled grooves (**Fig. 6**). Mark the center of the blank and carefully drill completely through it. I have found that a good quality brad-point bit ensures a clean, straight hole. The Euro Pen Kit calls for a 7 mm diameter.

Because blanks are often sliced from scrap, they may be less than perfectly square, and the hole can exit the blank a bit off-line. With a $\frac{3}{4}$ " square blank, plenty of material remains to round it out unless the hole is too far off center.

Installing the tubes

To ensure a good bond between the brass tubes and wooden blanks, roughing up the outer surface of the tube is necessary. Wrap coarse sandpaper (80- or 100-grit) around the tube and twist it to make scratches that run around the tube's diameter, not along its length (**Fig. 7**).

Pen makers use all sorts of glue to secure the tubes in the blanks, from epoxy to polyurethane and my favorite, thick CA. As long as the brass tubes are roughed up, any of these glues will work.

Before applying glue, make sure the tubes and blanks are correctly paired. Many pen kits have two different tube lengths, the longer usually used for the bottom barrel.

I add a drop or two of thick CA into the hole from one end of the blank,



insert the tube in the other end just enough to hold it, apply a few drops of CA to the outer surface of the tube and then push it in, giving it a twist as it goes. A piece of wood scrap can be used to seat the tube within the hole so it is roughly centered between the blank's ends. A special tube-insertion tool that makes this step even easier is available.

Allow the glue to dry completely before moving on to the next step.

True the blanks

I have tried many ways of squaring the ends of pen barrels but only one, a purpose designed pen mill, actually works reliably. The pen mill has a pilot shaft that fits inside the brass tube, accurately aligning the cutter that trims the wood square to the centerline of the tube (**Fig. 8**). Unless the ends of the pen barrels are flat and square, the metal parts cannot fit properly later.

In addition to guiding the cutter, the pilot shaft has a reaming cutter ground into its end that clears the inevitable glue buildup inside the tubes (**Fig. 9**).

Pen mill kits include several pilot shafts to fit the common pen tube inside diameters 7mm, 8mm, $\frac{3}{8}$ " and 10mm. Such a kit costs approximately \$35.

Turning the barrels

With the mandrel in the lathe, mount the barrel blanks and bushings on the shaft, making sure they are in the proper order (**Fig. 10**). Instruction sheets that show this arrangement for each style of pen kit are available from the retailer, often online. I find it easiest to put the upper barrel to my left. This habit allows me to visualize the final shape of the pen and reduces the chance of turning the wrong shape on the wrong barrel.

Some center bushings have two different end sizes and must be installed on the mandrel facing the correct way. This is most common when the center bushing has a floating ring used to size a tenon for a decorative ring to be installed during final assembly, as does our Euro Pen set. The floating ring and the step in the bushing on which it



rides must face the upper barrel.

After tightening the barrels and bushings on the mandrel, bring the tailstock up to the end of the mandrel. The point of the tailstock's live center fits into a recess in the end of the mandrel to support it. Lock the tailstock in position and apply just enough pressure against the end of the mandrel to support it (**Fig. 11**). Excessive pressure can "bow" the mandrel and cause a dangerous vibration.

Start the lathe on its slowest speed and slowly increase the rpm to a comfortable rate that does not induce vibration. Round the blanks so both are smooth, shut the lathe off and adjust the tool rest in to the new diameter.

In most cases, a considerable amount of wood must be removed during this step. I find it easiest to begin forming the final shape of the pen barrels as soon as they are rounded. This allows me to reduce the material close to the bushing diameters in increments, with less chance of removing too much wood.

Though experienced pen turners let their imaginations run free, save the wild shapes for after you gain familiarity with the process. Strive first to match the bushing diameters precisely.

Using a sharp gouge (I like a $\frac{1}{2}$ " spindle gouge) take light, smooth cuts

to begin forming the shape of the barrel. The diameter of the wood should end up slightly larger than the bushings to allow for final sanding. Naturally, the smoother your cuts, the less sanding you will be left with, but leave a little extra diameter on the first few pens — just in case.

Decorative ring tenon

The Euro Pen kit has a decorative ring, fitted to the lower end of the upper barrel. The bushing set has a floating sizing ring on the center bushing that helps cut a properly sized tenon.

I use a sharp, $\frac{1}{4}$ "-wide parting tool to cut this tenon because an ultra-smooth surface is not necessary (**Fig. 12**). In fact, a little roughness enhances the bond between the ring and tenon.

The width of the tenon should also be accurate, so the barrel ends will not show where they meet. I usually cut the tenon about $\frac{1}{16}$ " narrower than the decorative ring to hide this junction.

Hold the decorative ring on the blank, mark the length of the tenon and slowly reduce its diameter (**Fig. 13**). Stop the lathe frequently to check your progress by trying to slide the sizing ring onto the tenon. Ideally, the sizing ring slips onto the tenon with just a little resistance.

Also, the upper barrel diameter next



to the tenon should match the outer diameter of the sizing ring. Like the barrel ends, leave this slightly oversized so it can be sanded down to match the bushing diameter perfectly.

Sanding

First, remove or move the toolrest. Sanding a spinning object can be dangerous, particularly if the sandpaper is wrapped around the fingers. Hold a folded piece of sandpaper between your fingers so that if it should catch, it pulls out of your grasp rather than pulling your hand into the piece (**Fig. 14**).

Until you become more comfortable with turning pens, sanding may be part of the final shaping and sizing process in addition to refining the surface for finishing. The good news is that such a small piece of wood can be turned at relatively high speeds, making sanding more effective and less time consuming. We also have to remember that we are sanding on a thin metal rod (the mandrel shaft) making it important to use light pressure to avoid distorting the mandrel.

In most cases, 220-grit paper is sufficiently coarse to begin the sanding process, even if some shaping is required. Gently refine the shape and

diameter until the ends are nearly flush with the bushings. Some like to sand down to 600-grit or finer, and there is nothing wrong with that. I have had good luck with 320-grit paper applied lightly until the bare wood develops a dull sheen.

Finishing

Applying a finish to a spinning piece is an accepted part of turning, but the same cautions I mentioned for sanding apply. Use small pieces of cloth to polish the finishes and never wrap the material around your fingers. Fold it into a pad and hold it between the fingers so if it should catch, it is pulled away from your hand.

Finishing is one of the more mysterious aspects of pen turning. The problem is developing a glossy finish with the durability to withstand handling by human fingers and the natural oils and acids common to them. Over the years, I have turned lots of pens, finishing few of them the same way as the last. In this search for a perpetually shiny finish, I tried a broad range of finishing techniques, materials and sequences of application. In the end, they all succumbed to the wear and tear of human fingers to some degree.

For your first few pens, keep finishing simple. These will probably reside on your desk or in the shop anyway. Using one of the "burn-on" wax sticks or friction liquids is easy and yields good initial results. Probably the most popular sticks and liquid finishes are manufactured by Hut.

The key to using these finishes is to apply small amounts and then "burn them in" with a clean, soft rag. Burning in is simply creating enough heat to melt the finish material so it flows into the wood. To do this the speed of the lathe is increased and the cloth is held against the wood and moved over the surface slowly enough to maintain the heat developed by friction. As with sanding, we need not apply heavy pressure. The speed of the wood rubbing against the cloth will generate more than enough heat to spread the wax-based finishes.

A common mistake when applying finishes is using too much, which can make it just as difficult to achieve a nice shine as using too little. Changing spots on the polishing cloth will show how much of the finish material is transferring to it. When the transfer of finish material to the cloth begins to disappear, the amount on the wood is close to perfect.

Many pen turners use thin CA glue in the finishing process, building multiple coats of CA and polishing them to a high luster. With the lathe set at its slowest speed, the CA is dribbled onto the wood and spread with a finger shielded behind a plastic bag. You have to be reasonably quick and spread the CA in one pass over the wood before allowing to dry (**Fig. 15**). Let the CA harden fully before sanding with very fine paper (320- to 600-grit) to level it out; then repeat the process.

I have had limited success using CA as a stand-alone finish system but do use it regularly as a base for my (current) favorite pen finishing method. With the barrels sanded, I apply one coat of CA glue to the surface and allow it to dry. I smooth that surface with fine



sandpaper, usually a worn-out piece of 320-grit, and remove the barrel segments from the mandrel.

After finishing on the mandrel, go back to the pen mill and lightly touch up the ends of the barrels to be sure there is no buildup of finish or glue that might cause problems when the metal parts are installed.

After the CA glue, the only finish I apply is carnauba wax, regarded by most as the hardest wax available. I use the Beall Buff system, going through both abrasive wheel stages, followed by the carnauba wax buffed on last (**Fig. 16**). This system has produced good results that appear to be lasting — at least as long as anything I have tried so far.

Assembly

I initially resisted spending the \$40 or so to buy a pen press. Instead, I used my bench vise, pipe clamps, C-clamps and a drill press to assemble pens. Unfortunately, I managed to destroy pen kits with each of them before realizing the combined cost of those ruined kits was quickly approaching the price of the press. I cut my losses and purchased the pen press used here (**Fig. 17**).

Identify the ends of the barrels to be sure the parts are pressed into the correct ends. They will fit in either end but the diameters often differ.

Start assembly by pressing the pocket clip retainer into the top of the upper barrel, just enough to seat it. In most cases, the end of this assembly unscrews to install the clip itself. While this can be pressed in fully assembled, adding the clip afterwards reduces the chance of scratching the barrel (**Fig. 18**).

Apply one or two drops of thick CA

glue to the tenon and slide the decorative ring on, giving it a twist to spread the glue. Make sure the rounded edge of the ring (if it has one) faces the end of the barrel (**Fig. 19**).

Push the nosepiece into the bottom barrel (**Fig. 20**). Before installing the twist mechanism, read the instructions carefully for suggestions on its installed depth. This is the easiest way to mess up your pen on the press, because the depth is critical and the margin for error is small.

Press the twist mechanism into the barrel, with the brass tip going into the tube first. This is what actually secures the action in the tube. In most cases, there is a crimped ring around the mechanism that is used as a landmark during installation. I usually press the mechanism in just enough to hide that

crimped ring, screw the refill in place and then operate the mechanism to check how close the writing tip is to the end of the nose. Go slowly when adjusting this position because if you go too far, moving the mechanism back out without damage is very difficult.

When the mechanism is twisted, the goal is to have the writing tip fully exposed through the nose but retracting completely when twisted back the other way (**Fig. 21**).

With the ink refill installed, press the upper barrel onto the exposed part of the operating mechanism by hand. This is not a tight fit and is meant to be taken apart to replace the refill. Since the upper barrel is not keyed to the



16



17



18



19



lower portion, you can align it as desired to create the most attractive grain lines.

Check the operation of the mechanism one final time, and you pen is complete.

Once you become familiar with turning and assembling a basic pen, there are many pen styles, mechanical pencils and an ever-growing array of other small projects you can make

with your pen-making equipment. As is usually the case in woodturning, you are only limited by the bounds of your imagination. 🌳

CAUTION: Do not let the relatively small size of your turning fool you. Turning pens can still produce flying chips and splinters that can be dangerous. Wearing a good-quality face shield while turning and a dust mask during sanding is still required at this scale.

TOOLS USED IN THIS PROJECT

Available from Woodcraft:
Euro style pen kit, #06545
Euro style bushings, #06562
Mandrel #1 MT, #145998
Liberon wax stick, #832379
CA glue, #08X31
Beall buff, #141069
Pen mill set, #146139
Pen press, #142731

Tom Hintz

Tom Hintz has been a woodworker for 25 years and now produces how-to DVDs on various woodturning projects, such as bowls and peppermills. He founded the tool review and wood-working project site *newwoodworker.com* five years ago.



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TOOLS: Table saw, planer, disk sander, mortiser or drill press, 1/4" chisel

TIME: A few hours

MATERIALS: Scrap wood for jigs, any species for stand (mahogany and teak recommended), wood glue, stain, polyurethane, sandpaper

FUN SHUI

Small display stands for bonsai trees are hard to find. Our plan for building your own is as simple and elegant as the art of bonsai itself.

By Jack Dunigan

Every time someone plants a tree in a shallow pot and begins the delicate process of training its branches to enhance its natural form, bonsai begins again. No one knows who first trained a tree in a pot or when he or she did it. We do know that on the walls of 4,000-year-old tombs in Egypt are wonderfully preserved paintings of potted plants; and that 3,000 years ago, physicians in ancient India kept potted trees as at-hand sources of herbs and extracts. And 1,800 years ago, the Chinese codified styles of dwarf trees throughout every region and province of China, thus giving structure and qualification to what had been mere haphazard plantings. The Chinese word for artistic potted plant is *p'en tsai*, meaning "pot planting." Some evidence suggests the art was well developed before 2000 B.C.

But it is the Japanese who have elevated the art of miniaturizing trees in pots to the highest

level. Bonsai, the Japanese translation of the Chinese *p'en tsai*, didn't appear in Japan until about 1300 A.D., but the art has flourished there and the Japanese remain the undisputed masters of the

art. Bonsai masters carefully study a tree to find the essence of the tree's form and, through time-honored techniques, simplify that form to enhance its best features.

and reduce its unappealing characteristics. Bonsai artists almost never add anything to a tree. To do so would violate its simplicity and humility and mask its natural beauty.

Commitment, not magic

In 1889, bonsai appeared in Europe at the Paris World's Fair Exposition. In 1909 a large bonsai collection went on display in London. But neither Europeans nor the British could maintain thriving bonsai gardens. Rumors circulated that "Japanese magic" and "Oriental secrets" made bonsai flourish in Japan. Well, this may be at least partially true. But the magic is not sorcery, and the secrets are not secret. They are merely a commitment to the simplicity of form, a discipline to diligently tend the planting, and a dedication to a style uncluttered by applied ornamentation.

Bonsai appealed to me from the first time I saw one at a friend's home. At the time I couldn't have identified why I liked it; I just did. Over several years, as my experience as a woodworker advanced, I discovered I had a taste for the

work of Arts and Crafts designers.

The designs of Gustav Stickley,

Charles Rennie

Mackintosh, and

Charles and Henry Greene influenced my designs and formed a



woodworking philosophy that has led to this project. Two tenets of the Arts and Crafts movement match perfectly with the art of bonsai – the simplicity of natural forms and the abandonment of applied ornamentation. As I began to grow my own bonsai, I began to understand why I liked bonsai when I first saw it. Bonsai is in every sense the ancient root, as it were, of Arts and Crafts.

To display a carefully trained bonsai on a garish stand with applied scrollwork would be as unfaithful to the art as adorning the tree with silk flowers or tinsel. Bonsai cries out for an Arts-and-Crafts-style stand. Indeed, much of the Arts and Crafts style originates with Asian design. When the Greene brothers designed houses in Southern California 100 years ago, they did so with an obvious Asian theme.

Making a small stand

As my bonsai collection grew, I discovered that large-scale display stands could be easily found but smaller ones could not. I believe that even bonsai in the initial stages of training and development deserve to be displayed. So I designed and built several of these stands in mahogany and teak. The design is simple, the parts list short, the assembly uncomplicated. I built mine from scraps. The design lends itself to easy modification. You can make it larger or smaller. I recommend sticking with a 2:3 width to length ratio (thus it could be 4" x 6", 5" x 7½" or whatever). Whatever size you ultimately make, keep the legs about 1¼" long and the overhang at least 1". The style requires a long and low look.

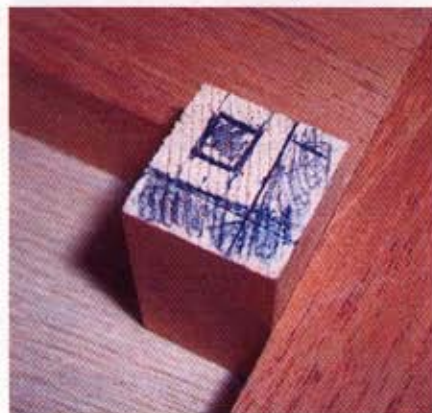
You will need:

1. A ½" x 6" x 9" top of mahogany or teak. Any species will work, but since bonsai are typically kept outdoors, a weather-resistant wood will endure longer.

2. Four legs, ¾" x ¾" x 1½".

3. Two long stretchers and two short stretchers, both of ¼" x ¼" material.

To make the top, mill a piece of stock in your planer to ½" thick (or buy a piece if you don't have a planer.) Trim it to finished dimensions. Set your table saw to a 45° bevel and the blade height to just clear the bevel. Most saws have right-tilting arbors so you'll need to move the fence to the left side of the blade or use the miter gauge. Hold the top stock perpendicular to the fence and cut the bevels. Using the miter gauge for the rip cuts can be tricky because it can be difficult to hold the work straight. I don't



1. When you mark the legs for mortising, make sure to account for the ¼" taper on two sides.

like to use the rip fence for the crosscut bevels for the same reason – it's nearly impossible to hold the piece true to the fence. Mill the edges of the cross-grain ends first, in case there is some tearout; then bevel the sides.

While you're at the saw, mill the stock for the legs and the stretchers. Cut some stock ¾" x ¾". You will need at least 7" for four legs, but prudence dictates that you make at least one more than the plans call for, just in case. Then rip some stock to ¼" x ¼". You will need at least 18" for the stretchers and another inch or so for floating tenons. If you have a thickness planer you can rip slightly

oversize and plane out the saw marks. If you don't, just sand them away by hand.

Mortise-and-tenon joinery

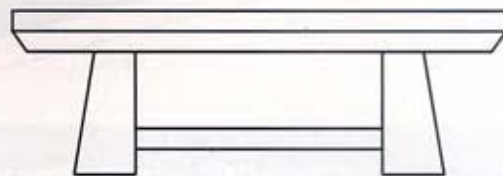
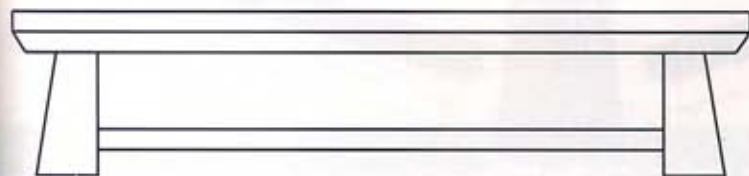
The pieces are held together with mortises and floating tenons. I used a bench-top mortising machine to cut the mortises into the legs. If you don't have one, you can cut the mortises by hand using a drill press and a ¼" chisel. Lay out the mortises by scribing in 1⅝" from each corner. These marks form the inside corner of the mortise. I made a jig and clamped it to the mortise machine table so each mortise went exactly in the same place. I cut them to ¼" deep, plenty of depth for a project like this.

Cut the mortises in the legs before shaping the legs to a taper. Lay out the locations on the ends of the legs, remembering that the mortises cannot be in the exact center. You are going to mill away two sides to a taper, removing approximately ¼" from two adjoining sides, leaving a surface ½" x ½". Plot the ¼" mortise in the center of that area. To help keep things straight, I marked the adjoining sides I was going to mill away, then marked off the finished edges (Fig. 1). Reposition your jig on the mortiser and cut the mortises.

Don't taper the legs just yet. Mark and cut the mortises in the legs to receive the stretchers. Make a mark ⅜" in from the back or straight side of the leg and ⅜" up from the bottom. This forms the corner of the mortise. Now cut the mortises (Fig. 2) and clean up all of them with a chisel.

To taper the legs, I made a jig to hold them in place while I sanded away the tapers on a disc sander (Fig. 3). Once they're cut, hand sand everything to at least 220-grit.

Cut four ⅜"-long tenons from



PROJECT 47



2. Make a simple L-shaped jig to keep your mortises consistent.

some of the $\frac{1}{4}$ " x $\frac{1}{4}$ " stock you milled up earlier. Next, cut the stretchers to length. If you are making the base to my dimensions, cut two of them to $6\frac{7}{8}$ " and two more to 3". Dry-fit everything. Depending upon how accurately you located the mortises, you may have to adjust the length of the stretchers.

Stain before the glue

When everything fits, set it aside — don't glue it up just yet. These stands are small and the clearances shallow, making it difficult to get a smooth stain coat after

it is assembled. I stained everything first, then glued it up. I live on St. Croix in the U.S. Virgin Islands where dark woods are preferred, so I used Behlen's Van Dyke Brown water-based stain. If you use a water-based stain you'll have to move quickly to avoid lap marks and splotches. Once everything is stained, follow the



3. Cut the tapers on each leg by hand or on a bandsaw, or sand away the excess as shown here.

stain's instructions for allowing it to dry completely. If you are not going to stain the piece, move on to the glue-up stage.

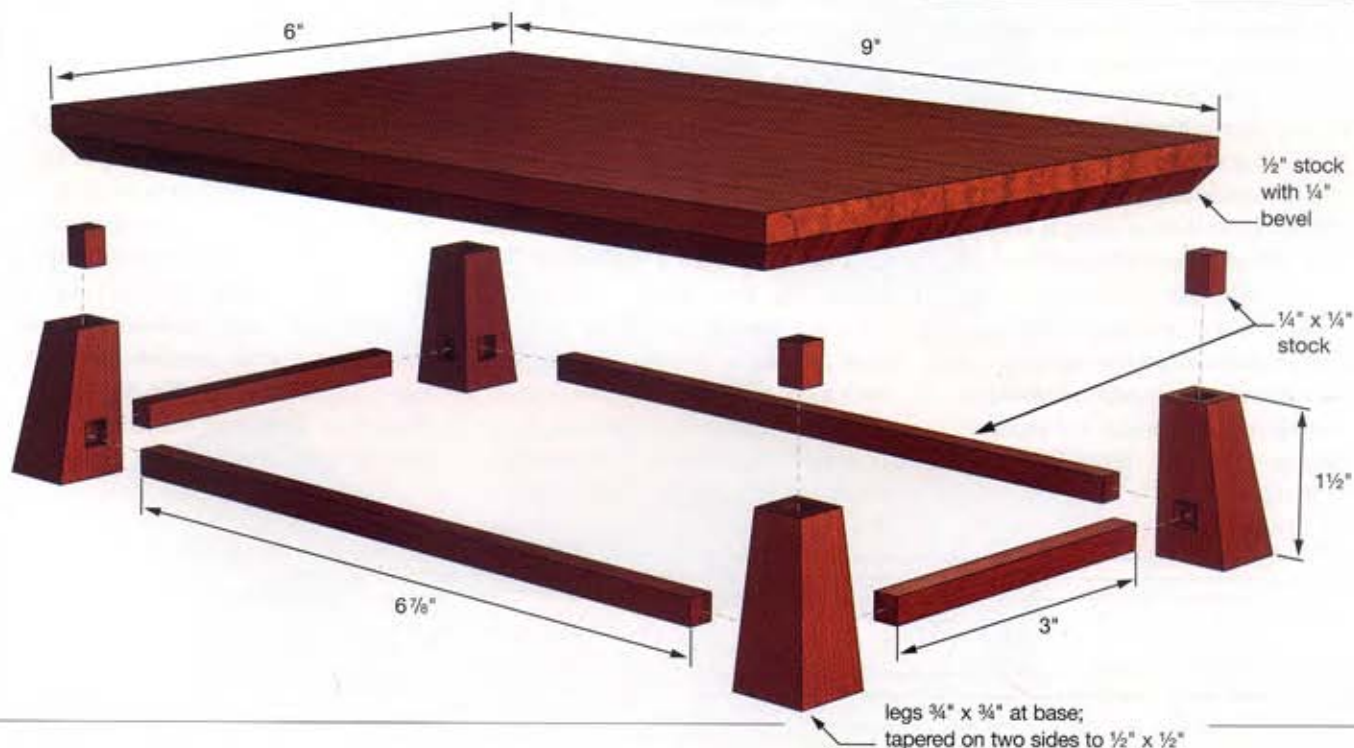
Since the stretchers don't actually serve any purpose other than decoration, I glued only the floating tenons in the legs and the legs to the top. Don't

leave out the stretchers; you won't be able to put them in after the glue cures. If you have used a water-based stain, don't use a wet cloth to remove glue squeeze-out. It will also remove some of the color. Leave the squeeze-out and carefully chisel it away in about 20 minutes. Flip the stand over on its feet and set a weight on top to serve as a clamp. In an hour you can remove the weight. The glue will fully cure in about 24 hours. Follow the instructions for top-coating and the project is complete. I used marine-grade polyurethane, available in spray cans, sanding lightly between coats.

This stand uses a paltry amount of material and once the jigs are made, it's just as easy to make several as it is to make one. If you're not yet a bonsai collector, you might find it to be a most relaxing and enjoyable hobby, especially if you already like to keep plants.

Jack Dunigan

Jack Dunigan is a professional woodworker who has been building furniture for more than 30 years.





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QUALITY WOODWORKING TOOLS • SUPPLIES • ADVICE™

TOOLS: Rotary carver, die grinder, burs, flap sander, clamps

TIME: A weekend

MATERIALS: 1¾" thick pine, 9mm eyes, glue, epoxy, stain, varnish

POWER PIGGY

Spend an enjoyable weekend wallowing in sawdust while you carve a piggy bank for your pocket change.

By John R. Garton and Joe D. Adkins

If you have always wanted to try your hand at carving, you might get the most instant gratification out of rotary tools. In our opinion, they are easier to use and a heck of a lot faster than carving tools.

You can make this project even if you have very little carving experience. As Joe says, "The best teacher is OJT (On-the-Job Training)." You can teach yourself over time to master power carving techniques without the hassle of learning to sharpen and wield chisels and knives. Power carving is faster but not necessarily safer,

as the holes in John's pants and shirts — and patches of missing hair on Joe's chest — attest. Always remember to wear appropriate safety equipment and follow the safety instructions that come with your woodworking equipment.

A piggy bank such as ours can be constructed from any species of wood. We prefer boards with a lot of grain such as pine, sassafras or other easy-to-carve wood. The grain adds character to the piece and tells the world it's made of wood, not resin. We also like straight, wide boards, but sometimes you just can't find them.

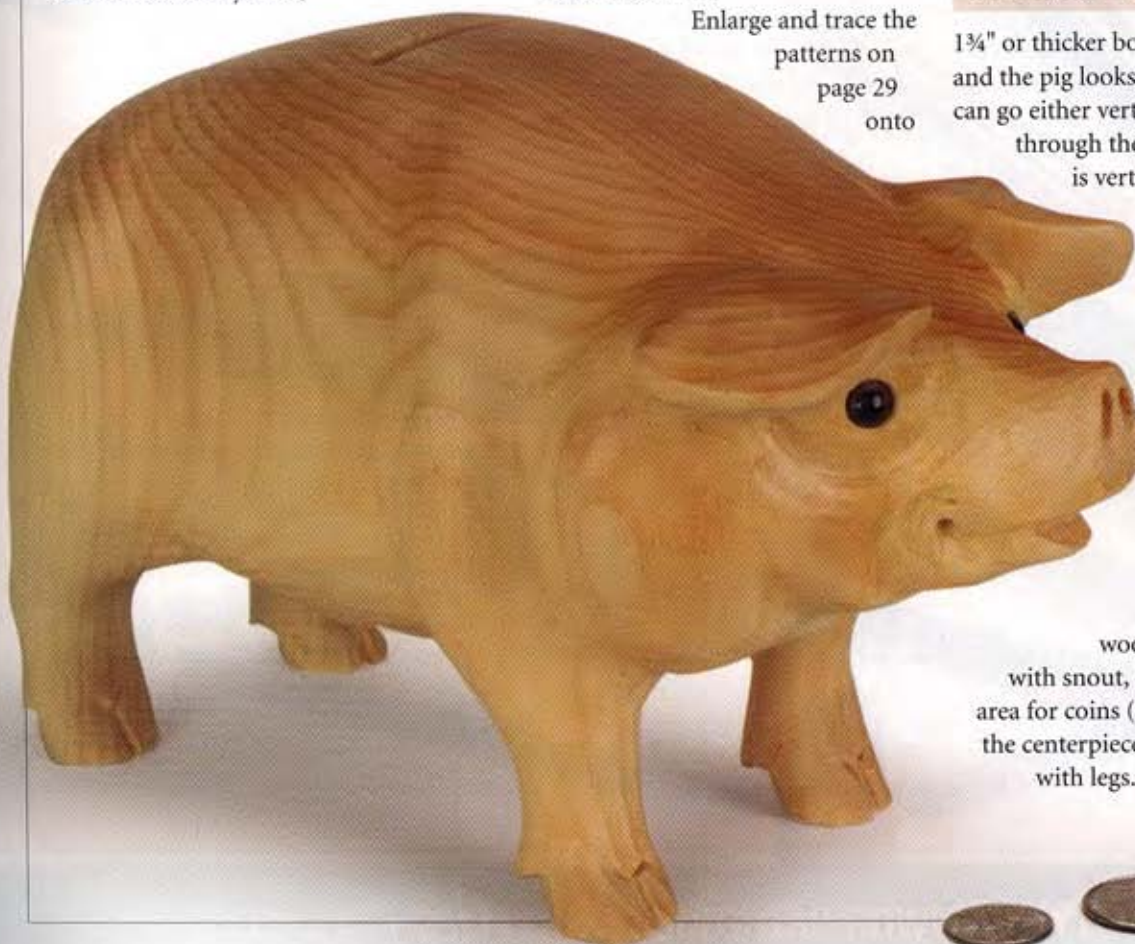
Enlarge and trace the patterns on page 29 onto



1. Cutting the opening in your center hole in a funnel shape makes coins fall out easily when the finished bank is turned upside down.

1¾" or thicker boards (any thinner and the pig looks "wormy"). The grain can go either vertically or horizontally through the legs. If the grain is vertical the ears might snap off; if it is horizontal the legs might snap off. You choose which one you want to cuss about. Just make sure the grain on all three pieces is going in the same direction.

The pig is constructed from three pieces of wood: one centerpiece with snout, ears, tail and a cut-out area for coins (there are no legs on the centerpiece) and two side pieces with legs.



Bandsaw the three separate pieces (Fig. 1), taking care to leave enough wood around the center cavity for gluing and deep carving. Otherwise you might break into the money hole, and then you'll be left with only some firewood and a few choice words lingering in the air.

Glue the three pieces together and clamp them with a single clamp. Then place the pig on a flat surface, feet down, to ensure all four feet are level and touching the surface. Make any necessary adjustments and add more



2. Carefully round the edges of your new carving blank, taking a little (but not too much!) off the legs and belly.

clamps; leave this to dry thoroughly.

On the bandsaw, trim off some of the excess wood (Fig. 2) to make your carving easier. Pigs are fat, round little fellows, so the bandsaw can safely remove the sharp, square edges. If you don't feel comfortable doing this on the bandsaw, pick up a die grinder with a rough-as-a-corn-cob burr and start rounding it over by hand.

Here's how to plan your cut. Mark the front leg to leave 1" of wood on the inside of the leg. Set the pig on his butt and attach a clamp for a handle. It's important to have complete control of wood when making these cuts, and using a clamp as a handle gives you that control. Cut the front and rear legs at the same time. Make sure the rear leg is aligned with the front leg so they are cut evenly. The saw blade should move up the legs and taper out. Do



3. Mark the head and haunches as shown, and trim those too.

both sides.

Place the pig in an upright position. Place a clamp/handle on the rear of pig, then draw guides (Fig. 3) and round out the head. Turn the pig around and round out the hams.

Tilt the bandsaw table and round over the top and belly, leaving enough wood to ensure a fat-backed hog (Fig. 4).



4. When rounding the top and belly, cut to within about $\frac{3}{4}$ " of the glue line.

The pig is now roughed out — and you simply carve away everything that doesn't smell like pig!

Okay ... we guess more instructions are needed. Let's be honest here, Joe and I do an awful lot of "eyeballing." We work down the piece until it looks right. Therefore, the following are helpful instructions, but in order to succeed you'll have to visualize that pig coming out of the wood. It often helps to have pictures of real animals or little

plastic models to look at. Even after you have trained your eye to see things like an artist, pictures and models help you look at anatomy from all the angles.

Large die grinders and smaller rotary tools are used to shape the pig. Cone, cylinder, and pointed burrs are used in the tools. Cut the excess wood away to separate the ears, and then thin the tail down to about $\frac{3}{4}$ " thick. Round over the back. Again, no precise measuring, just a lot of "eyeballing." It's



5. Stabilize your pig in a vise so both hands are free to control your carving tools.

a good idea to place the pig in a vise (Fig. 5).

Undercut the ears on the side, tapering the wood toward the snout. Make the snout triangular.

With a cylinder-shaped bit, cut out the jowls, shoulders and hams and



6. Sketch guides onto the sides of the pig before cutting.

PROJECT 48

round out the legs. Be sure to leave a fat belly. (Fig. 6)

Use a long, narrow bit to round over the inside of the legs and belly. Then



7. Shave off excess wood in the lower corners of the pig's mouth.

clamp the pig on its rear and cut out the lower jaw (Fig. 7).

Using smaller tools, carve in the mouth with dimples and the bags under the eyes (Fig. 8), and clean up the facial features. Leave a space for 9-mm eyes. Then carve out the dew claws and round over the hooves. Pigs have cloven hooves; therefore, make a slit in



8. Paying attention to small details, like this pig's dimpled smile, can make the finished project far more interesting.

the front of each foot. Also, put a twist in the tail (Fig. 9).

When putting the holes in for the eyes, be sure to set them in close to the snout. A wide-eyed hog looks downright scary. The eyes should be



9. A pig is not truly a pig without a curly tail.

looking out at a 45° angle from the snout. Each eye needs to be recessed into its eye socket, but not so deeply that it looks sunken.

Using whatever sanding tools you have available, begin to smooth the surface of the pig. We use a flap sanding device that fits on a drill (Fig. 10).

Ruby and diamond bits in the rotary tools will be used to finish up the finer details. A few wrinkles cut across the top of the nose gives the pig a "snorting" attitude. Then personalize the pig by carving your name and the



10. Start with 60-grit paper and work your way up until you're happy with the surface.

date into its belly. This turns it into a true heirloom.

Stain the pig with whatever color you like. A black-belted Hampshire pig is popular and requires only ebony stain, leaving the "white" sections unstained. Apply several coats of clear finish over the piece, and then glue the

9-mm eyes in place. Two-part epoxy putty is used to fill in around the eyes and to form an eyelid. Paint the putty to match the rest of the pig.

And last but not least, to make the piece perfectly level, flatten the feet on a disc sander (Fig. 11).

If you do break through into the center cavity when you are carving, it might be possible to patch the hole



11. Finishing touch: level up the pig's feet with a disc sander.

with putty and paint black spots on your pig to cover up the putty.

A lot of people ask us: "How do you get the money out?" Turn the pig upside down and shake it. If the money doesn't flow out freely, take a butter knife and insert it into the coin slot. Shake and poke at the same time and the money will fall out. The bank is for coins only; no folding money unless you really want to "break the bank" to get it out.

And there you have it — a project that took a weekend to complete but will be treasured for years.



PROJECT 48



To start your carved pig, transfer one center section (the solid green line) and two outside sections (the orange dotted line) to 1 3/4" stock, cut out and glue together. Enlarge this pattern up 400% or get the full-size version at woodcraftmagazine.com

John R. Garton & Joe D. Adkins

John uses his veterinary training to create all kinds of realistic animals (gartonoriginals.com). Joe adds his gift of "hillbilly engineering" and his keen observations of nature to the mix. Both are self-taught wood carvers who are inspired by the beauty of the mountains near Petersburg, W.Va.



PROJECT NUMBER 49



CARVING WOODEN BOWLS & SPOONS

TREENWARE

BY OWEN REIN AND STEVE FOLKERS

Discover the secrets of making treenware — handcrafted bowls and spoons — using only a few hand tools, your carving skills and the wood that grows nearby.



People have been carving spoons and bowls out of wood for as long as they have had the tools. The very word “spoon” descends from the Anglo-Saxon for “chip of wood.” Up until the Industrial Revolution most people in Europe ate out of wooden bowls with handcarved spoons. There is still the old Welsh tradition of young men making elaborately carved spoons as gifts for their beloved.

One of the first skills mastered by the hedge carpenter, spoon carving requires only a few simple hand tools and can be practiced almost anywhere there is wood. It is also a great intro-

duction to working with the wood that grows nearby.

Finding good wood

Traditionally, spoons are carved out of hardwoods for strength and durability. Soft to medium hardwoods such as sassafras, basswood, butternut, catalpa, or mimosa can be worked easily when seasoned, but these woods may be porous. Walnut, red maple and other woods that are a bit harder may also be worth working dry. Very hard woods such as dogwood, persimmon, mulberry, sugar maple, wild cherry, and Osage orange are better carved while

still green. This is also true of orchard fruitwoods like peach, plum, pear and apple. Apple is an ideal spoon wood, having the combination of creamy carvability when green, immense toughness when dry and a fine texture that takes oil well.

Splitability is also an issue since a billet is usually half or quarter split out of a bolt from a large limb or small trunk. Some woods, like elm or farkleberry, don't split well and are hard to work. Hackberry and sycamore are a little better but need to be worked green with sharp tools.

Spoons are often made out of

crooks, utilizing natural curves in the grain. This is especially important in the extreme curves of ladles. Trees with a twisted grain should be avoided.

Orchard removals and powerline clearings can be good places to find wood for spoon making.

Spoon engineering

Carving a good spoon can be viewed as a design exercise founded on engineering principles. The bowl of a spoon should not be exactly in line

with the handle, but have some degree of "lift" or angle in relationship to the handle. This allows for reaching down from above, making it easier to scoop and lift. Often there is also a small amount of crank, a downward offset in the handle, to ensure that the load's center of gravity is below the line of the handle.

Consideration must also be given to the ways in which the structure of the spoon relates to in the grain and other qualities of the wood. Spoons of softer woods can't be as thin and delicate

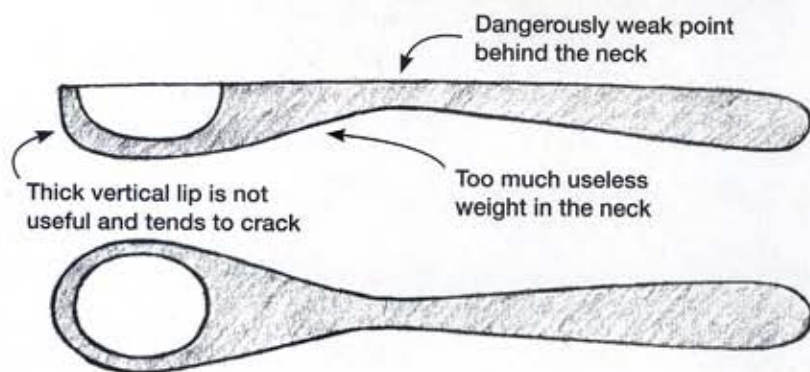
as those made from harder, tougher woods. To help prevent cracking, the front lip of the bowl is usually kept at a shallow angle to the grain. The keel sometimes seen on wooden spoons adds strength to the bottom of a narrow neck by including more grain where it is needed.

At some point, engineering blends into style. For instance, a baby spoon may flip up at the end of the handle, where a ladle often bends down and levels off from a sharp rise; both create a functional grip, but also serve style and grace. Also, while the bowl has to work as a bowl, and the handle as a handle, there is a relationship between them; keep this proportionality in mind. And the juncture of handle and bowl is itself a key point in both engineering and style. To a large degree, the grace of a spoon is in its neck.

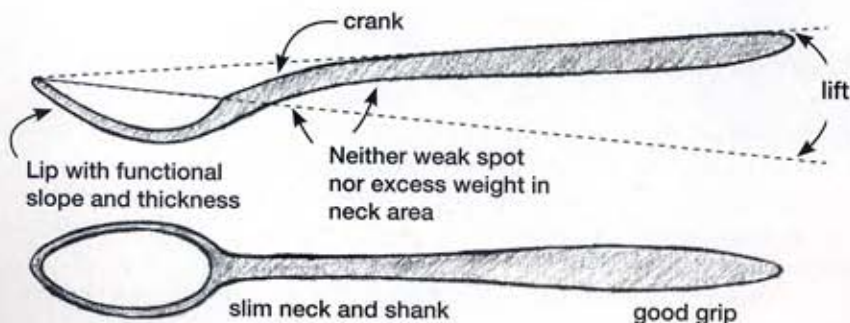
Finding a spoon in the tree

Most woodworkers are used to starting a project with a detailed plan that contains specific dimensions and following that same plan through to completion. In carving treenware

BAD SPOON



GOOD SPOON



FEWER TOOLS are needed for carving the smaller pieces of wood.



MORE TOOLS ARE required for the shaving horse method of production work.

there is an ongoing negotiation between the carver and his piece of wood. Whether one starts with a given piece of wood, or starts with an idea and then goes off to look for material, the design work is a continuous process of modifying and refining the general plan along the way as possibilities are revealed. The grain, and the good and bad spots, make suggestions, or at least define limits that can be taken constructively. To feel one's way into a piece of wood, toward a design that works with this interior structure, one has to constantly feel the interaction between the tool edge and the grain.

Spoons can be oriented with their bowls facing in toward the pith, the center of the tree, so a cross-section of the bowl would approximate the growth rings. This method requires less material and less work to remove less waste. The smaller pieces of wood are more easily held by hand while carving, requiring fewer tools. It is difficult to carve very large spoons with this method.

Another approach is to dig the bowl of the spoon in from the outside, so the grain at the lip is the broad outside of the tree. This is combined with the shaving horse method for production

work; although it involves more tools and more wood removal, it gives consistently good, strong results. Also, with this orientation a striking visual effect can be produced where the grain inside the bowl forms a pattern of concentric rings mirroring the shape of the outer rim.

Bowl in

After selecting a piece of wood cut it to length with a good two or three inches of extra on each end (**Fig. 1**). Using a wooden maul and a froe or splitting ax, split the section in half along a line that passes through the pith and parallel to the face of the bowl and the top of the handle of your intended spoon (**Fig. 2**).

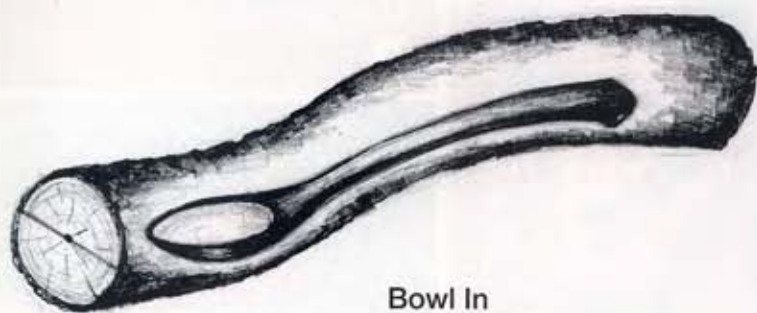
With a sharp broad hatchet, hew the rough split surface smooth, establishing a plane that follows the line of the top of the spoon (**Fig. 3**). It is very important here to remove all traces of the pith and any wood that is checked or not sound.

Next, starting at the neck, hew a surface perpendicular to the face that follows the side of the handle and neck (**Fig. 4**). Do the same on the opposite side. Then hew the back of the handle, starting at the back of the bowl and working down the

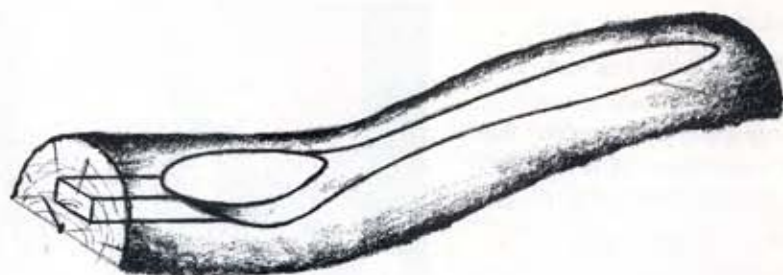


handle perpendicular to the sides and parallel to the face. Although the finished spoon will have curved and rounded surfaces, establishing parallel and perpendicular planes helps in

FINDING THE SPOON IN THE TREE



Bowl In



Bowl Out

visualizing the spoon and maintaining symmetry.

After roughing out the neck and handle, shape the front of the bowl with a block-knife (**Fig. 5**) or the hatchet (**Fig. 6**). This completes the rough shaping.

With a short bladed carving knife clean up the rough hewed surfaces, refining the shape, leaving smooth surfaces. As with the hatchet work, start at the neck (**Fig. 7**) and finish up with the front of the bowl (**Fig. 8**).

Excavate the bowl with a spoon gouge or bent gouge (**Fig. 9**). Holding the bowl in one hand, choke up on the spoon gouge in the other hand to allow the edge of the gouge hand to rest against either the wood of the

bowl or the hand holding the bowl. It is very important to maintain contact between both hands while excavating the bowl. Use short, rocking strokes to dig out the wood, rolling the side of the gouge hand against the hand holding the bowl. This is a very safe technique, but if the gouge hand raises above and loses contact with the other hand the gouge could slip and who knows where its sharp cutting edge would end up.



The last step is to trim the lip of the bowl (**Fig. 10**).

Bowl out

With the broad hatchet, hew the inside curve split from a 3-6" diameter section (**Fig. 11**). This will be the back of the spoon. Make sure to remove all of pith, leaving a surface of sound wood. Hew the front face of the spoon on the bark side of the wood parallel to the back. Hew the sides, leaving a nose of extra stock on the bowl end, so the blank can be held both ways on the shaving horse (**Fig. 12**). Hew both nose and handle to a square cross-section, to help achieve symmetry as well as for grip.

Drawknife the top face to near-finished. This is where to determine the lift and crank of the handle, and the maximum possible width of the bowl. Provisionally choose a bowl shape and a handle in proportion to it, and pencil in a general plan on this top face, including a refined nose (**Fig. 13**).

Drawknife the sides of the handle, bowl and nose to the plan, unless the wood tells you otherwise (**Fig. 14**). Cut in, bevel down, to remove excess wood where the bowl joins the handle, but get back out appropriately to leave enough wood for a strong neck and handle (**Fig. 15**). At this stage, surprises in the grain may lead to adjustments in bowl shape, handle length, or orientation. When satisfied, shave the back of the (still square) handle and nose to thickness, and round the back of the bowl.

Finalize the bowl shape for total symmetry and smooth curves with a flat chisel (**Fig. 16**). Then, using a straight gouge, dig out the bowl, starting cross-grain in the center (**Fig. 17**). Enlarge the cavity evenly; as completion nears, gouge with the grain instead of across it. Being careful to leave the rim thickness undamaged, dig to final depth and contour, and clean up as much as possible.

Saw the nose off carefully and trim the stub with the drawknife, then paring

chisel and knife, beveling the top side away from the lip first to avoid split-outs.

Finish the bowl by feeling for thick spots with your finger-calipers, crosshatching those areas and then shaving the pencil off, repeating until the entire bowl is of even thickness.

Round the handle with the spokeshave, refining the grip until it feels right. Trim the neck and rim with the carving knife, round the butt of the handle with the knife or paring chisel, and check the whole spoon over for missed spots.

Bowls

Traditionally bowls were made of tupelo, poplar, basswood, butternut, sycamore, sassafras or catalpa – the lighter weight, easier to carve woods that grow big, clear blocks – and occasionally in harder woods like walnut or

maple. Bowls are almost always dug out from the center of the tree, purely for size reasons. Burls, with their bowl-like shape and swirling grain, make nearly indestructible bowls.

The same methods used for spoon carving, but scaled up in size, are used for making a traditional dough bowl. Someone must have let bread dough rise in them somewhere, but for many generations they have basically been used as flour bins that biscuits were made in directly, and they are often called biscuit bowls. Very large ones called meat





troughs were used to carry butchered meat into the kitchen.

Start by splitting a bolt through the center; hew top and bottom flat and parallel, and then plane both faces fairly smooth (**Fig. 18**). Pencil a plan on top, usually an oval or a rounded rectangle, with or without handles on the ends, and indicate a $\frac{1}{2}$ " wall thickness.

Excavating the bowl requires endurance. If a gouge and maul are used, a stop-channel is cut across the center first, and then long chips are taken from the ends in towards the middle. Generally, though, the bulk is removed with a small gutter adze, and once the skill is acquired, the results can approach an almost finished level (**Fig. 19**). Either way, take it down in layers, giving the ends a good slope. Trim the inside surfaces with a well-sharpened, hand-pushed gouge (**Fig. 20**).

Some of the outside wood at the end corners can be sawed off, but often it's just as well to hew it, first with the broad hatchet (**Fig. 21**) and then with the adze, which works surprisingly well on the outside, too. The blockknife is also useful for shearing this down.

Whatever the tool, be careful to support the wood judiciously, and not crack the end grain as it thins. With most of the heavy work done, put the bowl top down on the bench, against a low stop. Switch to maul and gouge, and eventually to hand-pushed gouge, paring chisel and spokeshave. A plane works well on the sides. Check thickness frequently, trying for an even $\frac{1}{2}$ " all around, except where needed to give a good standing bottom. A foot rim carved into the outside bottom can help make the bowl sit steady and is a good way to remove excess thickness from the bottom. Clean under the handles with the gouge, perhaps even adding a finger groove. Roll the edges of the rim and handles with

spokeshave, paring chisel and knife.

Finishing

Wood carved green should be set aside to dry thoroughly, out of direct sunlight, before finishing. Larger pieces can be stored in plastic between carving sessions to promote slow and even drying. During this drying process a slight warping may occur which can be corrected by trimming the rims.

Scrapers and curved rasps can be helpful to work smooth a whittled surface, but the best aid in making a smooth surface is neat and clean carving.

A good utilitarian finish can be achieved by simply sanding with 150-grit sandpaper then applying a generous coat of mineral oil, which is wiped dry after being allowed to soak in. For a more deluxe finish, raise the grain by soaking the piece in water for about an hour after the initial sanding. Let the piece air dry then sand well with 400-grit paper. Apply four or five coats of mineral oil, the last of which should be mixed with 25% beeswax, which can be buffed dry to a soft luster. 🌲



Owen Rein and Steve Folkers

Using old-fashioned woodworking tools and techniques has long been a passion for Owen Rein and Steve Folkers. Wandering around in the woods comes more naturally for both of them than they care to admit.



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TOOLS: Scroll saw, drill press

TIME: A few hours

MATERIALS: 1/2" thick hardwood scrap, CA glue, sanding and finishing materials,

CARD CADDY

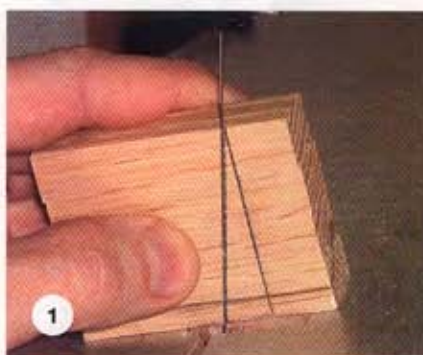
Use your scroll saw skills and a small piece of wood to craft this attractive and unique holder for business cards or other small items you want to keep handy.

By Dave Van Ess

My passion is woodworking! I would do a lot more of it if it wasn't for that big drain on my time known as "The Day Job."

This particular project is one I especially like because it can be completed in a single afternoon. It is a business card holder made from a single piece of wood. It is a good project for beginners as the only power tool it requires is a scroll saw. It requires some skill with the saw but not great skill. It also is a nice project for the more experienced woodworker, as it lends itself to any number of design variations and can be built with small scraps of exotic woods.

This card holder is made from a piece of wood, 5 1/2" by 3 1/2", 1/2" thick. This is small enough that you can splurge and use some really nice wood. If you lack access to a planer,



find a local wood monger that sells 1/2" stock. Oak is a good choice. Copy the pattern on the next page and attach it to the wood. I like to use spray mount. If you start with a piece of wood that is 24" long, there is enough material to make four card holders.

To assist in setting the angle on the

scroll saw I take some scrap pieces to make an angle block (**Fig. 1**). Glue up a stack of four to make a 2" thick piece. (Actually it is four times the stock thickness. If the wood is 15/16" thick then the stack is 1 5/16" thick.) Mark a 1/2" bevel. It is easier to set a 1/2" bevel for a 2" stack than it is to set an 1/8" bevel for a single 1/2" thickness of wood.

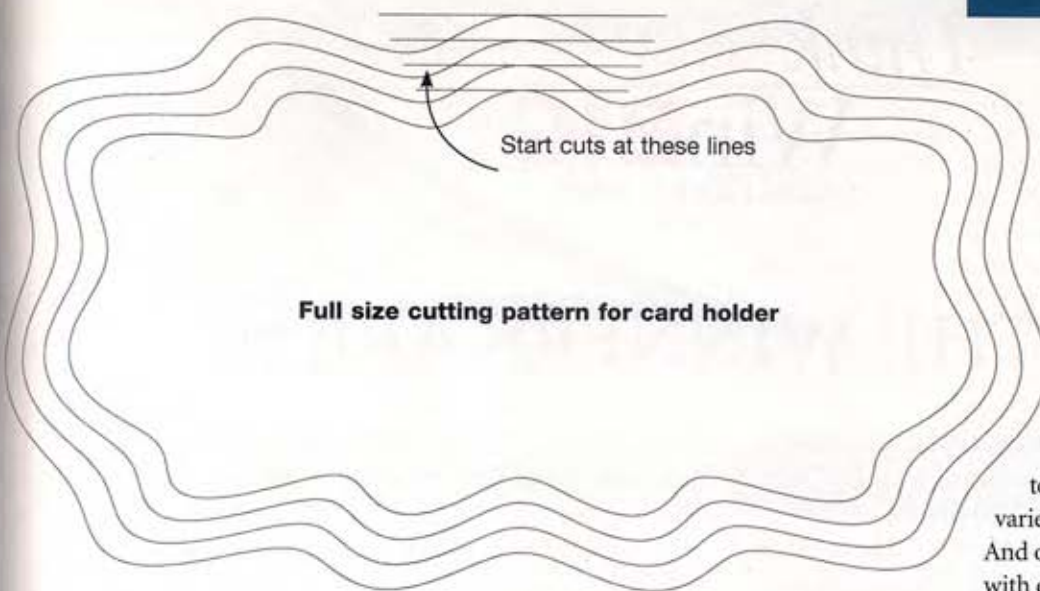


Set the bevel on your scroll saw and begin sawing. Each ring has a line to serve as a lead-in to start your cut.

Four cuts make three rings and a base (**Fig. 2**). The rings have, of course, been cut apart and will have to be glued back together. I use Hot Shot Super T instant glue. When used with an accelerator it dries in 10 seconds.

No matter how well you glue these rings they will need some sanding to smooth out the joint. To do this I use a sanding drum in a drill press (**Fig. 3**) but a spindle sander or even an electric drill mounted in a vise will do. An inexpensive sanding drum can be made by taking a 6" long, 3/8" diameter 120-grit





Full size cutting pattern for card holder

Following these same directions, attach the third ring to the other two. Then glue the base to the third ring. The construction is now complete. This kind of project will be handled and fingers are oily, so I prefer to use a tung oil finish. Lacquer or shellac is also acceptable. A nice thing about this project is that it is very tolerant to cutting variations. The more varied, the more it looks like a basket. And of course you will get better with experience. With such a small material cost, this experience comes inexpensively.



sanding sleeve and mounting it on a 9" or 10" dowel. Rubber cement is an ideal adhesive. Cut in half and you have two disposable sanding drums.

Sand the glue joints smooth. This also gives you the opportunity to remove any saw burns.

Next, stack and glue the rings together. Start with the first (top) ring and place it upside down on a work



surface. Place the second ring, turned 180°, on top. Position it and mark where the second ring intersects with the first (**Fig. 4**). Remove the second ring and place dots of glue on the first next these marks. I use Hot Shot Special T green instant glue. It is a very thick, gap filling adhesive that stays where you place it. Again align and place the second ring back on top of the first ring. Apply pressure and wait 10 seconds for the glue to cure.

Dave Van Ess

Dave is an application engineer for Cypress Semiconductor, and the originator of *net.rec.woodworking* newsgroup. Has more tools than he needs, fewer tools than he wants, and not enough time to use them.



BASKET DESIGNS WITH THE CLICK OF A MOUSE

I GOT THE IDEA FOR MAKING A WOODEN BASKET from a plastic collapsible camping cup and an old woodturning trick. Turners would cut rings from a single thickness of wood and then glue them up to make a pre-hollowed bowl blank. I figured the rings could also be cut with a scroll saw, and did not have to be circular. If they had waves and were stacked correctly, the result might be a bowl that resembled a basket. I did my first designs by hand, but I spent way too much time on the drawings.

The pattern shown above was generated with a simple software program that I wrote. The program is written in JavaScript because Microsoft provides a free Windows Based Script Host with their operating systems, so practically everyone with a computer can make use of the software I wrote. The program is easy to use and can generate an endless variety of designs. To get your free copy of this program script, log on to woodcraftmagazine.com and go to the projects section.

Think Small Win **BIG** *Mini Clock Contest*

AND THE WINNERS ARE . . .

THE TIME HAS COME TO ANNOUNCE the winners in *Woodcraft Magazine's* "Think Small, Win Big" Mini Clock Contest! Entrants submitted photos of their completed projects containing one mini quartz clock movement from Woodcraft. Finished size was to be no larger than 3" x 3" x 7".

Judges first picked the Top 20 Finalists in the Adult Division and the Top 8 Finalists in the Youth Division based on photos. Ties resulted in the selection of 28 adult finalists and nine youth finalists, who were then

asked to send their projects to *Woodcraft Magazine* for final judging. Their creative work appears on the following pages.

In choosing winners, judges looked for excellence in design, craftsmanship and degree of difficulty in each piece. All finalists will receive a one-year subscription to *Woodcraft Magazine*, a frameable certificate, and a copy of this issue of the magazine.

So little time, so many clocks ... Here are our winners and finalists!

1st Place Tim Teel - Lehighton, Pa.

Teel designed this desk clock so the miniature guitar side greets visitors while the clock side is visible only to the owner who can discreetly keep track of time. Teel, director of instrument design for C.F. Martin & Co., crafted the guitar using jatoba (guitar body, side and back), Sitka spruce (top), Santos mahogany (neck), black ebony (fingerboard and bridge), and Brazilian rosewood (headpiece and rosette). The bindings, tiny heelplate and pickguard are celluloid, a very old form of plastic that is highly prized by guitar players. The entire guitar was sanded to a very fine finish of 40 micron and coated with Behlen Master-Gel clear finish.

PRIZE: Makita LXT 400 Lithium Combo Kit (\$400 retail value)



2nd Place David Bonde - Iowa Falls, Iowa



An industry technology instructor, Bonde designed this clock to be visually interesting from any angle and to create a sense of depth and movement. The main body of his project is bird's-eye maple and walnut, held in place with two small walnut pegs that were turned on the lathe. The main beams are padauk, and the little foot is a walnut and oak bent laminated form. The finish is tung oil wet sanded to 600-grit.

PRIZE: \$100 Woodcraft gift certificate

3rd Place Don Fry - Charlottesville, Va.

This walnut clock joins two Pennsylvania-style ball-and-claw feet – the lower with a sphere forming the foot, the upper grasping the clock instead of a ball. Fry created the upper part by carving a traditional ball-and-claw, then removing all of the ball except the clock base. After sanding, he finished with five coats of Minwax Polycrylic for maximum high gloss to allow the grain to shine through without yellowing.

PRIZE: \$50 Woodcraft Gift Certificate



Honorable Mention

Michael Shorter - Knoxville, Tenn.

Shorter created the illusion that a spaceship – the dogwood and cocobolo top – is casting down a beam of light through the clear acrylic support when actually a button at the top of the cocobolo base controls a small LED light that provides the illumination.



Honorable Mention

Patrick May - Steamwood, Ill.

May's leather-look watch is actually made of 5,000-year-old Irish bog oak. Tannins in the oak react with the acid in the water, causing it to turn black. It is finished with clear Danish oil and beeswax.



Honorable Mention

Wade Dalton - Hemlock, N.Y.

To craft this miniature church, Dalton used mahogany for the body, walnut for the base, and ebony for the columns, doors and finials. He chose Brazilian rosewood for the top spire and curly maple for the roof.



YOUTH WINNERS & ENTRIES



1st Place

Alex Moran
Lakewood, Ohio
Age 13



2nd Place

Jarrett Bell
Boise, Idaho
Age 14



3rd Place

Andy Smith
Saline, Mich.
Age 15



Nick Schram
Boise, Idaho
Age 15



Honorable Mention

Chris Dalton
Hemlock, N.Y.
Age 10



Keaton Rickels
Iowa Falls, Iowa
Age 15



Honorable Mention

Jeremiah Wolfe
Shippensburg, Pa
Age 11



Kyle Romick
Chester, N.H.
Age 16

Joshua Wolfe
Shippensburg, Pa.
Age 15



FINALISTS



R. Bruce Ferguson
Summersville, W.Va.



Mark Hynek
Hartford, WI
Grandma's Mini

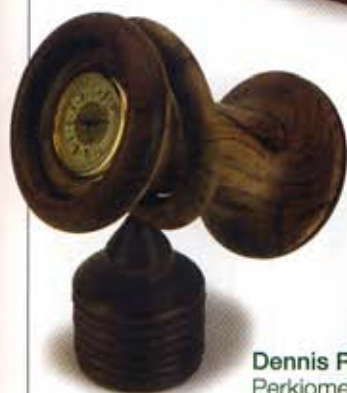


Brian Coe
Winston-Salem, N.C.

Victor Danart
Wacissa, Fla.
Pocket Watch with Stand



Jim Stoddard
Vancouver, Wash
Business Card Holder/Timepiece



Dennis Rozak
Perkiomenville, Pa.



John O'Neill
Apex, N.C.



Bill Dillon
Corona, Calif.



Dan Meyer
Stanley, N.Y.
Emergence of Time

Alden Swenson
Fort Wayne, Ind.



Duane Eckard
Loves Park, Ill.



FINALISTS



David Gustafson
Midland, Mich.



Alexander Schuetz
St. Charles, Mo.



Frank Burger, Jr.
Austin, Texas



John Santoro
Billerica, Mass.
Desk Top Wooden Watch



Daniel Ehlers
Benton, Ark.
Pendulum Clock



Ethan Sincos
St. Charles, Mo.
It's About Time

Pat Cahill
Isanti, Minn.
Time Travels Slowly



Esvin H. Blanco
Boise, Idaho



Charles S. Reed
Monmouth, Maine.



Bill McMillen
Bartlett, Tenn.



Kimberly Winkle
Smithville, Tenn.
Frazzled



PROJECTS *from* OUR READERS

SHOW OFF



Humidor

Paul Tanian, Las Vegas, Nev.

Canarywood is the primary wood for this humidor with ebony corners, handles and lifts and an inlaid top that showcases walnut, maple and buckeye burl. Spanish cedar lines the inside, which also includes a slotted tray.

Be recognized for your work! Send us a photo of your best woodworking project. All photos must be high-quality slides, transparencies or prints. High-resolution digital photos are fine as long as they are at least 300 dpi. Sorry, but computer printouts can't be used for publication.

Show Off
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Granddaughter's Rocker

Temple Blackwood, Davidsonville, Md.

Blackwood crafted this rocker as a gift for his granddaughter. Blackwood has made 129 children's rockers since 1977, primarily from black walnut, for family members, school auctions, and clients. He fells the trees, splits the billets by hand and turns and assembles the chairs with steam-bent ladder slats.



Turned Bowl

Robert Klassen,
Knoxville, Tenn.

Klassen chose amboyna burl with sapwood, an exotic wood from Southeast Asia, to craft this bowl as a gift for a friend.



Tall Case Clock

Robert L. Millard, Dayton, Ohio

Millard chose mahogany, white pine, satinwood, cherry, curly maple and ebony to construct this 112"-tall case clock featuring inlay work. He then colored it with a mixture of lime and water, tinted oil and shellac.

Federal Card Table

Wayne Comstock, Greenville, S.C.

Comstock used solid mahogany for the top and legs and mahogany veneer for the apron of this 29"-high classic reproduction of a demilune style table.





Footed Bowl/Vessel

Tom Kiewitt, Sevierville, Tenn.

This footed bowl/vessel is made from maple that has been textured on the outside, except for the rim, and gilded inside with red gold variegate. The African blackwood legs are suspended from the body with brass rods.



Mackintosh Chair

Jacque Allen, Asheville, N.C.

Cherry and black African wood were used to build this chair that stands 60" tall with a 21" wide seat covered in brown buffalo hide. The black wood is a highlight around the hand carved and dyed back slats.

Card Table

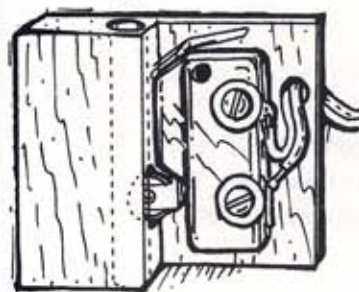
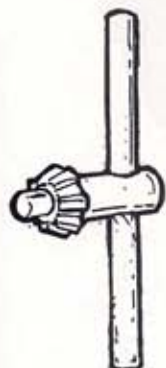
Alf Sharp, Woodbury, Tenn.

Crafted from macassar ebony, sapele pommelle and sycamore and finished with French polish, this piece was featured in The Furniture Society's show, "Curv-iture."



Two Problems - One Answer

THERE HAVE ALWAYS BEEN TWO THINGS that bothered me about a drill press key. One, if you forget to remove it from the chuck, it'll be launched like a missile when you start the motor; and, two, when you do remember to remove it from the chuck, there's no convenient place to store it. I felt there had to be a solution to both problems. What was needed is a storage place for the key that will not permit the motor to run if the key is removed from storage.



My solution was built from parts I had on hand: a microswitch and a 1½" square by 3" long maple block. The block is drilled lengthwise to accept the handle of the key. Drill through top to bottom, so that dust and wood chips can fall through and not get trapped as they would if it were a blind hole. That hole is centered ¼" from one face. About halfway down that face (the actual position for the cross-hole is determined by the dimensions of the switch) a ½" hole was drilled to intersect the first hole. This is for the switch actuator.

To keep fingers away from the live electrical connection, I fashioned an enclosure from ⅛" Masonite. I attached the holder to the drill press next to the existing on/off toggle switch and I wired the new switch in series with the existing switch.

— Abe Litman, Lincoln, Neb.

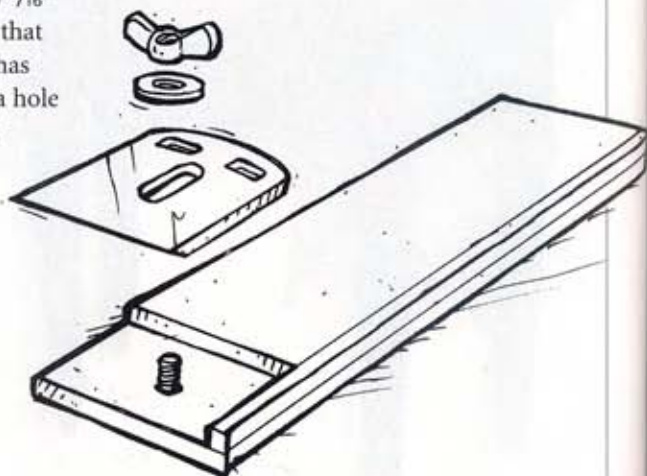
Sharpen Short Blades With Ease

NOT LONG AGO I WAS GIVEN AN OLD STANLEY METAL SPOKESHAVE by a friend. For a time it worked beautifully (he had sharpened the blade), until the blade became dull. At first I experimented with freehand honing, but because the blade is so short I achieved only mediocre results. Next I set my mind to the task of making a jig that could hold the blade securely in my honing guide. The following is what I came up with.

The body of the jig is a piece of hardwood, ¾" thick, as wide as your spokeshave blade (2⅞" for me), and about 6" long. At the front a 1" rabbet about half the thickness of the body is cut to hold the blade. Make sure one edge is square, and glue on the square piece of hardwood ¾" by ¾" and the length of the body, making sure that it is square to the rabbet. Once the glue has dried, clean up the excess glue and drill a hole in the middle of the rabbet. Insert a bolt head down through the hole with a nut and washer. The bolt should be ¼" in diameter or slightly larger.

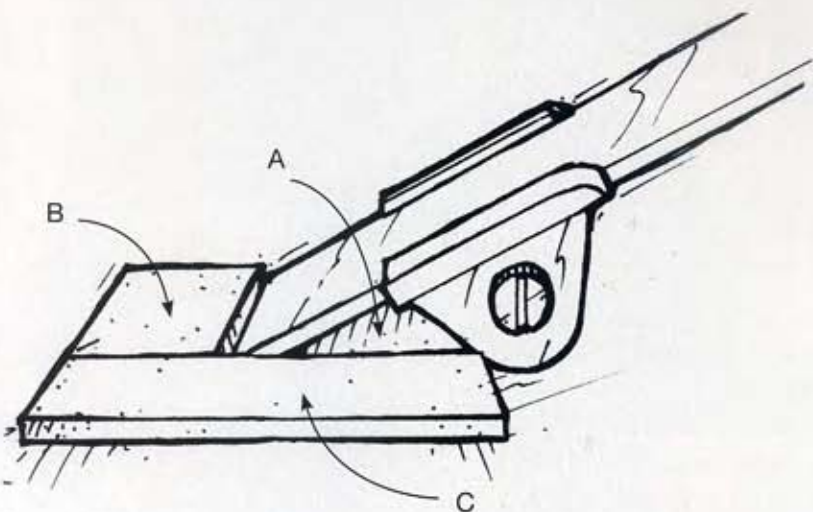
To use, put the blade on the step with the bolt through the slot in the blade and square it to the fence. Put the jig in your honing guide or use it freehand. Either way, you'll receive a square, sharp edge.

— Isaac Stafstrom, Madison, Wis.



Get A Grip

I FOUND SHARPENING PLANES AND CHISELS somewhat intimidating and tedious, until I started using a honing guide (mine grips the sides of the blade), and the setting-up jig shown in the figure. The jig helps me to clamp the blade in the guide in a repeatable manner so that the cutting edge projects always the same distance from, and at right angle to, the edge of the guide. As a result it takes just a few seconds to set up the guide, the bevel is maintained at exactly the same angle every time I sharpen the tool, and thus the least amount of metal needs to be removed to bring the edge to perfection.



The jig is made from three pieces of hardboard. First C is glued to A at right angle to the edge of A. The blade projection for 30 degree and 25 degree bevels is, on my guide, given on the side of the device. If in your case you do not have this information, or if you prefer non-standard bevel angles, first clamp the blade in the guide and adjust it as if you were to sharpen the blade at the required angle, then hold the blade flat against piece A with the guide's edge butting the edge of A, and glue B to A so that its edge touches the cutting edge. Of course, separate jigs have to be made for each bevel angle.

To use the jig, hold the plane blade in the jig against the "L" formed by B and C and clamp the guide to the blade so that it touches the edge of A. — Frank Penicka, Mount Pearl, Newfoundland

More for Your Money

HAVING RUN OUT OF MY FAVORITE RUST INHIBITOR, I needed a quick replacement to keep my cast-iron table saw protected. The solution was as close as my second hobby across the garage. The chain wax that I use for my dirt bike was just the fix. It not only works as well or better but it is half the cost for twice as much. It is now the only product I buy.

—Jay Williams, Shireleysburg, Pa.

We would like to congratulate Abe Litman for sending in our favorite tip of the issue. For submitting the best tip, he'll receive a \$100 Woodcraft gift certificate.

Woodcraft Magazine pays \$100 for every submission used in Tips & Tricks. The submitter of the best tip of the issue also receives a \$100 Woodcraft gift certificate. If needed, your tip should include a photo or drawing to help explain your idea. Send your tips, tricks and jig ideas, along with your contact info, to:

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No More Awkward Situations

MY PARTNER, A 60-YEAR-OLD, AND I DO A LOT OF WOOD FINISHING in houses such as installing vanities. As he is older, he gets frustrated putting in corner brackets underneath the vanity; the brackets keep falling out of his hands due to the awkward position required. This also happens when he is trying to straighten and screw a hook on the wall or attach a hinge to a door and so on.

We solved the problem by putting a small amount of 3M Hi Strength 90 Spray Adhesive contact glue on the bracket, placing it where it is to go and then screwing it on with the use of one hand. No more having things fall. We carry a can of the glue with our tools. This idea makes work twice as easy. — Fred Mandel, Dinsmore, Saskatchewan

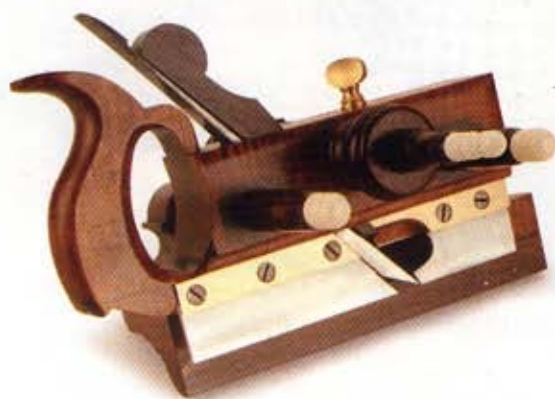


{ meet Jim Leamy }

JUST PLANE CRAZY

BY KERRY PIERCE

A fascination with hand planes led Jim Leamy to literally invent a second career as a full-time, 21st-century maker of top-quality reproduction plow planes.



When I open the door to Jim Leamy's shop and I step down from the kitchen of the comfortable two-story home he shares with his wife Becky, I step into a working environment that's a little different than any other woodshop I've ever visited.

First, Leamy has an elephant tusk. A real one. It's 3' long, standing on end, arcing up from a base about 4" across to a rounded tip. And then, right beside the elephant tusk, there's a supply of brass bar stock in a variety of sizes, including one monster cylinder 2½" in diameter. Next to the bar stock is his supply of wood, but here, too, Leamy's shop confounds expectations. Instead of the neat pile of 4/4 material I find in the shops of most of the woodworking craftsmen I visit, Leamy has short lengths and random widths of 8/4 material, which he stores standing on end leaning against one wall of the

shop. There's boxwood, several kinds of rosewood (including cocobolo), aboyna burl, figured mahogany, bubinga, ebony.

Some of his machinery is recognizably intended for woodworking. For example, a big Jet table saw sits in the middle of the room, and a Jet thickness planer is crowded against one wall. But the room also contains equipment that would be more at home in a machine shop. His tool collection includes a milling machine, a metal lathe, and a small metal tapping machine.

Then I remind myself that this is not the shop of a craftsman who reproduces period furniture. It is the shop of a craftsman who reproduces period tools.

Even furniture makers accustomed to the high cost of good-quality hardwood will be astonished by the prices of the materials with which Leamy works. The last time he found Brazilian rosewood

in large enough pieces for planemaking he paid \$125 a board foot, and each of the planes Leamy made from that material consumed \$350 to \$400 worth of rosewood. Even the bar stock is expensive. The 18" length of 2½" brass came to \$140. And of course, those numbers are insignificant when they're compared to the cost of ivory. Each of the five Sandusky presentation plows Leamy has under construction on the day of my visit requires the use of almost \$2,300 worth of ivory.

Leamy's shop comfortably fills the 2½ car garage in which it's housed. One wall is lined floor-to-ceiling with 19th and early 20th-century plow planes, all neatly stowed parallel to the wall with the fences out. Another floor-to-ceiling rack on the adjacent wall houses his collection of wooden molding and joinery planes. Next to the molders, there's a third rack for patented metal planes,



JIM LEAMY STANDS BETWEEN TWO SECTIONS of his antique plane display. His collection of plow planes is on the right. His collection of molding and joinery planes is behind him.

specifically the collection of Stanleys that started Leamy on his hand-plane odyssey over 25 years ago.

"It's a dream job. Get up in the morning, walk downstairs, have a cup of coffee, walk out here, and go to work," Leamy says.

Leamy is a solidly built man in his early sixties, a man who favors blue jeans and flannel shirts worn over white T-shirts. His hands are thick-fingered, strong, and dexterous, capable of the subtlest manipulation of tools and material.

His voice is soft, uninflected, but prone to sudden staccato bursts of laughter. Although his face, like his voice, reveals little expression, it's clear that he cares passionately about his work. This isn't something he does in order to pick up a few extra bucks to supplement his military pension. (Twelve years ago he retired after 30 years in the Air Force.) This is work that matters, not only to Leamy but also to his clientele, who often pay thousands

of dollars for a single copy of Leamy's creations.

The truth is, this is work Leamy would do even if nobody paid him to do it.

Passion for hand planes

His love affair with the hand plane began over 25 years ago when, while stationed in the Seattle area, Leamy began to collect antique planes. On the West Coast, there are very few wooden planes that are available to collectors, so at first he focused his attentions on those planes that were available: the ubiquitous Stanleys.

Not long after he began to collect planes, he began to sell them, motivated at least in part by the desire to make his plane-collecting hobby pay for itself. This buying and selling of antique tools is an interest he continues today. Often, when he sets up a table at a tool show to present the plows he's made, he sets up a second table on which he presents antique planes he's offering for sale.

As his collecting expanded into wooden planes, he realized there were many he wanted badly but would never be able to afford. That's when he began to look seriously at the possibility of making his own.

At that time, there was little in the way of published information about how 19th-century plane makers practiced their craft. Kenneth D. Roberts' seminal work, "Wooden Planes in 19th-Century America," was in print, but in the pre-Amazon.com era, the simple fact of a book's existence did not mean it would be known to everyone who might have an interest. And Donald Rosebook's lavish study of Leamy's craft, "Wooden Plow Planes," was decades away from existence.

Fortunately, by the time he had decided to make plows, Leamy was an accomplished woodworker. Today, some of his antique tools are stored in meticulously executed wooden chests that Leamy made before his career as a plane maker had taken off. So despite the

"It's a dream job. Get up in the morning, walk downstairs, have a cup of coffee, walk out here, and go to work."

absence of historical information about the craft, Leamy began his work armed, at least, with a knowledge of tools and materials.

These traits, although essential, aren't enough to launch a career as a plane maker. Just as important is a marketing plan that will put the product in front of those relatively few people who have both the resources and the desire to make a purchase.

The tools Leamy makes couldn't be sold at a Wal-Mart or even at a very pricey tool store. The truth is — Leamy acknowledges — that except for his modest line of infill smoothing and miter planes, none of the planes he makes will ever be used in the day-to-day operations of a woodworking shop. These plows aren't purchased by users; they're purchased by the same collectors who pay \$10,000 for an antique Ohio Tool Co. plow in ebony and rosewood. This is a fate Leamy's tools share with the work of other top-level toolmakers. No one who lays down \$6,000 for a Karl Holtey smoother would ever use it to surface a tabletop because there are plenty of good planes under a grand for that kind of work.

This circumstance is both good and bad. It's good because it pays men like Leamy and Holtey enough money so that they can extract every last bit

of quality from their material. It's bad because their tools will never have the opportunity to do what they've been so carefully crafted to do.

Leamy's marketing plan is pretty basic. He simply shows his tools at top-level antique tool shows and lets the work speak for itself. "The Midwest Tool Collectors have two big shows every year, and that's where I get most of my business, from there and the Brown auctions," he explains. "I also go up to Nashua (New Hampshire) for the two shows (the Live Free or Die Antique Tool Auctions) there every year."

19th-century pace

"At one point, I was two and a half years behind. Right now, I'm probably 18 months behind," Leamy says.

By now, Leamy reckons that he's working at a pace comparable to that of 19th-century plow plane makers like Solon Rust. (Rust, the master plow plane maker at H. Chapin's Son's Union Factory during the late 19th century, is

credited with several important technical innovations and is probably the best known individual in the field.)

"There's a lot of little things I've learned over the years to improve my production, but I'm sure it took those guys as long to make a plane as it does me." He hesitates, then adds: "They might have been a little quicker because they weren't as conscientious about quality as I think I am. A lot of them ... well, they were banging them out to sell."

Typically Leamy works with production runs of only three or four copies, although last year he did a run of 10: four centerwheel and six Montgomery plows. "That's just ridiculous," he says ruefully. "I had parts everywhere, and you got to keep track of them because they're not interchangeable."

On the day of my visit, Leamy's working on an edition of five copies of the record-breaking Sandusky presentation plow in ebony and ivory. These five plows are all made with authentic ivory (legally acquired from reputable dealers), although

FIVE SANDUSKY presentation planes in the process of construction



JIM LEAMY

Plane Maker



Sandusky Presentation Plane
Ebony & Ivory

Country Flow Plane

Tiger Maple, Rosewood & Ivory Inlays





Process evolution

The production of a plane nut is an example of how time and talent have combined to develop a process that you won't find described anywhere else.

First Leamy cuts a block — in this case, boxwood — of the right thickness, width, and length. He then scribes circles marking the outside diameters of the nuts. He bores the hole for the tap. (Notice that the hole isn't drilled into the end grain.)

Leamy starts the tap, making several checks with a small square to ensure that the tap is entering the block 90° from the top surface of the block (Fig. 1).

Then, once the tap is correctly aligned, he begins to cut the threads. He cranks the tap around twice, then backs it off a half turn to clear the chips. After four turns, he backs the tap all the way out. This process is repeated until the tap comes out all the way through the other side.

Leamy saws the nut out on the bandsaw and turns it onto a threaded boxwood mandrel which he mounts in the lathe (Fig. 2).

With the tip of his skew, he makes a shearing cut to square up one face of the nut. This is the face that will be positioned against the body of the plane.

The nut is taken off the mandrel, its alignment reversed and then threaded onto the mandrel a second time. He begins shaping the nut's outside diameter with a fingernail gouge as shown (Fig. 3).

Although he does no measuring during this demonstration, Leamy always measures the length and diameter of each section of each nut when he's making an actual part for a plane.

The next step is one you won't see in how-to books on lathe work. Once the nut has been roughed in with a fingernail gouge and a skew, Leamy moves the toolrest aside and begins to fine-tune the nut's profile with a little hand-held scrap of a tool he made from an old file (Fig. 4). "It's easier to do the intricate details this way," he explains.

The final surface of the nut is crafted by burnishing the nut with the end of a stick he welds as if it were a scraper (Fig. 5).

Leamy does offer the same plow made with an artificial ivory. With artificial ivory, the plow runs about \$3,000. The price is higher with the real stuff; how much higher depends on the current price of ivory.

After assembling the photos, drawings, special tools and materials that a run of plows requires, Leamy starts work by cutting out the bodies. "I'll rough-shape the handles, put the throats through, then finish the bodies off."

He next mills the blanks for the molded fences. Ironically, instead of using a plow plane to do this rough work, Leamy removes the bulk of the waste with a table saw. And then, instead of using molding planes — as Solon Rust and his contemporaries did (according to Kenneth Roberts in Vol. 50, No. 4 of "The Fine Tool Journal") — Leamy creates the final profiles using scrapers. Only the very tiny beads are cut in the manner of Leamy's 19th-century antecedents, using molding planes Leamy designed and built for this purpose.

Leamy estimates he can profile a fence in an hour or an hour and a half, once the rough work has been done on the table saw.

Next Leamy turns his attention to the metalwork. All of his plows have metal parts which he fabricates from bar stock, but some plows, like these presentation planes, have more than others. For instance, in addition to the normal complement of thumb-screws and depth stop, this plow requires a nickel-plated brass center-wheel. Each of these parts is made one at a time, on either a milling machine or a metalworking lathe.

The centerwheels are turned from a chunk of 2½" brass barstock. The bar he's currently working from is about 18" long. He expects to get 18 centerwheels from that bar, each of which will take an hour to turn.

He doesn't turn large lots of metal parts in advance. Instead he makes up only what he needs for the run of plows currently underway.

After the metalwork is done for the Sandusky presentation plows, Leamy focuses on the ivory. Parts are first sawn out, then — in the case of the arms — turned on a lathe. On the day of my visit, the ivory arms for these planes were turned and ready for the next step: polishing. This process removes only a negligible amount of material, perhaps a couple of thousandths, and brings the surface of the ivory to the soft sheen buyers want to see.

"The next step is to inlay the diamonds on the arms," Leamy explains. After the diamonds are inlaid, he will go to work on the ivory bridges that sit between the arms atop the fence. These are dovetailed into the arms in the same way the bridges on other Sandusky centerwheels are dovetailed in place.

Leamy started this run of five planes in mid-December and expects to have them finished by mid-May. "I usually work six to eight hours a day, six days a week. And sometimes, I'll come out here on Sunday for a few hours."

Creative drive on display

Each of the plow planes produced in Jim Leamy's shop is a tangible expression of his creative drive. Some of those plows require the creation of processes not part of the shop repertoire of most 21st-century craftsmen. Some require the design and fabrication of new tooling. Some require both.

But none of these plow planes constitute Leamy's greatest creative accomplishment. That distinction is reserved for the career he's invented.

As a result of 12 years of unrelenting effort, Leamy has moved from part-time plow plane maker to a full-time professional in the field. This is a career he couldn't have imagined as a child, a career no high school guidance counselor would have recommended to a young Jim Leamy.

Leamy isn't the first man to make a living as a maker of plow planes. There were many who worked in the field in the 19th and early 20th centuries, but Jim Leamy is the first full-time 21st-century maker of plow planes. He is also the first man of any century to make a living producing only the very best plows, from all of the very best plow-plane designers.

That's a claim even Solon Rust couldn't make.



Leamy's full line of planes can be seen at www.jimleamyplanes.com.

Kerry Pierce

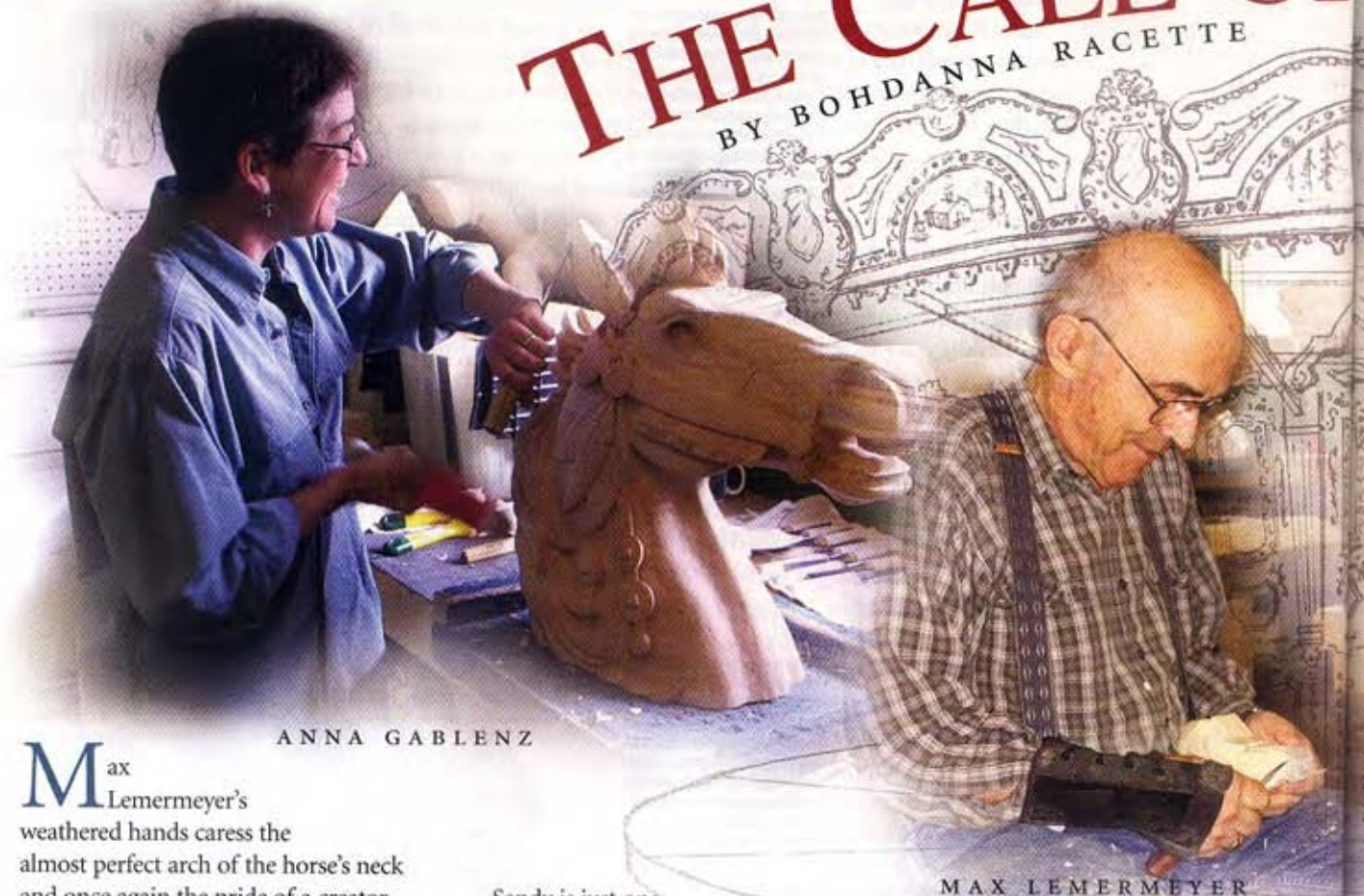
Pierce has been a professional furniture maker for more than 20 years. He is the author of 10 woodworking books — including the recently published "Authentic Shaker Furniture" — as well as dozens of magazine articles. His work has appeared in many regional shows, including, most recently, Ohio Furniture by Contemporary Masters at the Ohio Decorative Arts Center.



"At one point, I was two and a half years behind. Right now I'm probably 18 months behind."

THE CALL OF

BY BOHDANNA RACETTE



ANNA GABLENZ

MAX LEMERMAYER

M_{ax} Lemermeyer's weathered hands caress the almost perfect arch of the horse's neck and once again the pride of a creator stirs in him. He imagines the blur of his grandson's grin as he watches the look-alike of the 1920s carousel spinning once it is unveiled July 1 in historic

Fort Edmonton Park in Alberta. Max remembers this kind of carousel from his youth and chuckles at the flood of memories it evokes. He bends down



CARVER LAUREN BAKER labors to bring a horse's features to life.

again and lets his chisel expertly lap at the soft wood grain. When finished, Sandy will be a fine horse indeed.

Sandy is just one of 32 hand-carved wooden horses, ranging from 36" to 48" chest to rump, which will encircle the machine in three rows — all as colorful, shiny and bejeweled as the imagination and artistry of their creators. Richly detailed chariots, rounding boards and upper and lower panels will add to the fanfare.

The carousel, encased in its own 70' diameter pavilion with glass doors, will be the centerpiece of the 1920s Midway and Exhibition at Fort Edmonton Park — a living memorial to the heritage of the city. Eventually, visitors to the midway will enjoy many more attractions, including a Ferris wheel and a carousel horse carving workshop.

Collaborative effort

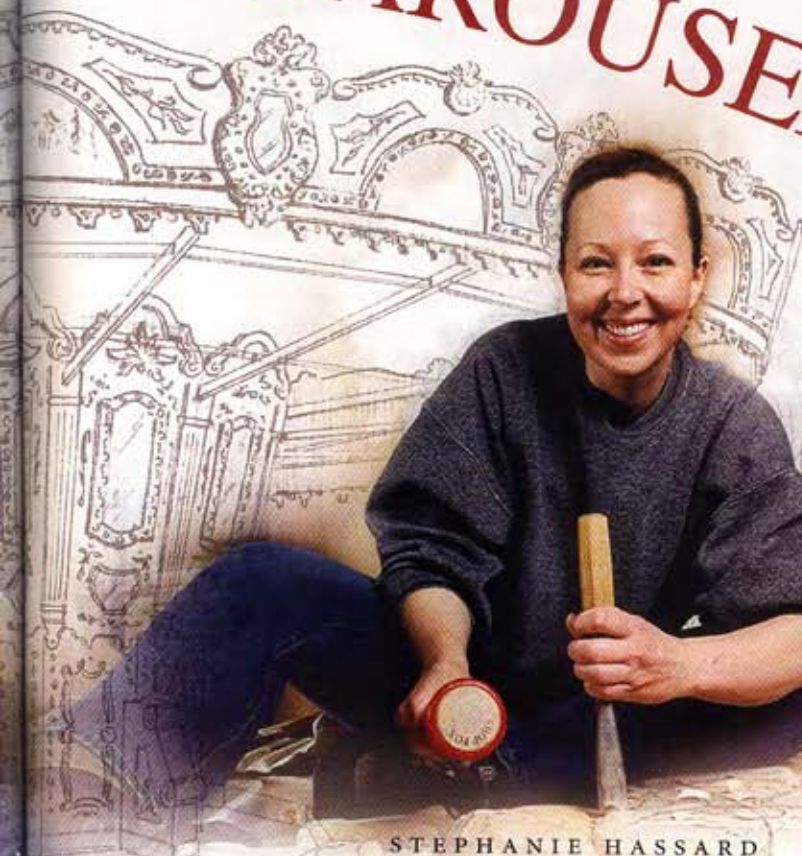
Over the past several years, Max and 99 other volunteers between ages 11 and 82 have devoted thousands of hours of

work in a collaborative effort to create carousel horses. "The Fort Edmonton Foundation never put out a call for volunteers," Maryetta Harper, Carousel Project co-chair, explained. "Word of the project spread and people came to us. We have had to turn away volunteers at this point because there simply isn't enough work to go around!"

Max and the other carvers labor in an old barn of a workshop where the smell of fresh shaved wood is in the air and the chatter of people enjoying their work mixes with a country CD sobbing from the player. Most of the 40 carvers are older men like himself who treasure the camaraderie and sense of purpose and artistry that they have found in the project. It is the distraction from retired life that they were looking for.

"I started carving when I sold the

A CAROUSEL



STEPHANIE HASSARD

farm in '89," Max said: "Mostly, I did miniature animals in the round; you know, a cow and calf with a grandpa and little boy — this was from a book — a wagon pulled by mules, as well as a few pieces of chip carving. But like most of the fellas here, this is the first time I'm carving large animals."

In fact, all of the carvers and painters have trained in three carving and two painting workshops sponsored by the Fort Edmonton Foundation — the charitable foundation charged with raising the capital to complete Fort Edmonton Park. The foundation bought each carver a \$500 set of 12 chisels and mallets for the large-scale work. The group also accepted local engineer and carving instructor Doug Warren's offer to serve as head carver and to coach and encourage carvers to

"There is a definite sense that they are not carving/painting one horse but

achieve high-quality work.



LINDA BOTTERIL carefully applies paint to Military who will soon carry riders on a 1920s-style carousel.

that together we are creating a carousel, and the unity of purpose is great. This is teamwork in very real terms," Doug said. "On many occasions, if the 'final'



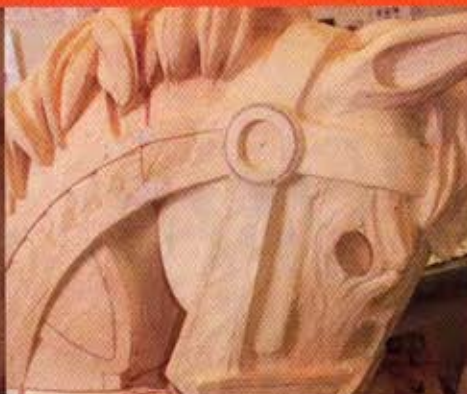
DOUG WARREN

product, leg, ear, tail, etc., did not match the standard set by the group, then the piece was cut off and a new one carved. There are several horses which had five or more legs carved, some had multiple ear jobs, a chest implant or a nose job as well to ensure that there is continuity across the stable of horses."

The insistence on excellence has produced results. Without it many of the carvers would have thought they were finished long before they completed the quality horse which they now prize.

Two sides of a horse

There are two sides to a carousel horse: the romance side and the money side. The romance side faces the outside of the carousel and is heavily carved and detailed. The money side, facing the inside of the carousel and not on show, has much less carved detail (it gets painted on instead). Since it requires less work, the money side is where manufacturers used to make their money.



In this case, with the carvers learning as they go, this isn't always so.

"Often the carvers will practice the romance details by first carving them on the money side and then proceeding to the romance side," Doug explained. "When they are done they have to carve off all of the hard work that they did on the money side in order to maintain historical correctness — a tough thing to ask of anyone."



J.J. BOYD APPLIES primer to *Buck* prior to the final painting stage that will transform the horse into a carousel "star."

Historical accuracy is of paramount importance for Doug and the foundation. This carousel is not just any imagined merry-go-round — it is the recreation of the Philadelphia Toboggan Company (PTC) #40 carousel style. Edmonton old-timers may remember this PTC carousel; it is the one Johnny Jones, an operator of the original Edmonton Exhibition, brought to the city during the 1920s.

PTC horses had a style of their own. According to the foundation's Web site, "There appeared to be several elements common to most PTC horses. PTC faces

were attractive, although heads were a bit chunky, with good-sized jaws. Eyes were expressive. Eyebrows had dimples carved above the eyes and were 'A-frame' in style. Most mouths had the second last tooth missing on each side of the bottom row. Flowing, uncomplicated manes prevailed."

Designed for adoption

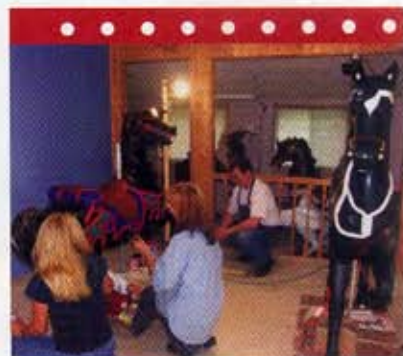
Lauren Baker is one of the 40 carvers (nine females) and a painter, but her major contribution to the project is that she designed two-thirds of the horses.

"Although the horses need to look like PTC horses from the 1920s," she said, "they are not replicas of PTC horses as the company is still around today (they manufacture roller coasters), and we would be infringing on copyright. So to create my patterns, I referenced photos of PTC horses from the 1920s, and created new, unique patterns for our carousel."

As faithful to the style as the carvers are, each adds a unique touch to his or her horse. Lauren fondly recalls carving Lily. "Once I started to get the hang of the whole carving thing, specific carving details like the eyes and mane were difficult. Carving hair is a complicated thing, especially when you take into consideration that all of the hair on all of the carousel horses has to look similar (in terms of the shapes of the clumps of hair).

"And the eyes ... they are the windows to the soul of the horse, and I wanted to make mine as perfect as possible. They carry so much expression that carving the eyelids in a certain way

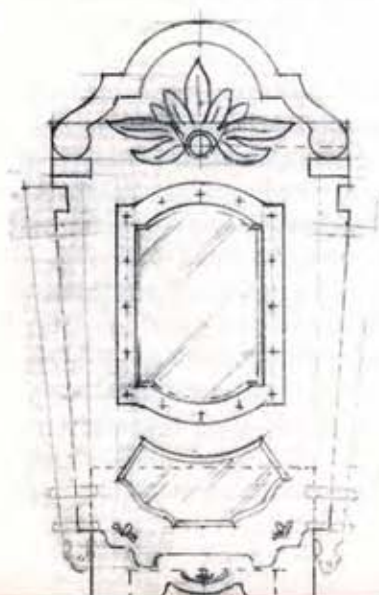
changes the horse's mood just as much as the position of the ears! Lily is a little different from all our other horses in that we rolled the eye back on the



PAINTERS LINDA BOTTERIL, Kelly Johner and Doug Warren focus their attention on one of the many carousel horses.

money side — so that she is looking at the rider of the horse inside her. It gives her a look like 'I'm going to bolt any second now,' which complements her wild mane."

This variation in design has given



the foundation a fantastic sponsorship opportunity. After all, the carousel will cost around \$850,000, so what better way to include a larger community than to allow members to "Adopt A Pony." Moreover, as many of the sponsors came forward with their own stories and sentiments, the designers integrated them into the look of the carousel's stable of horses.

Sandy, for example, was designed to resemble a horse that had been with his sponsoring family for many years. "She was the gentlest of gentle horses," the couple told Lauren as she worked with it to design the relaxed legs and gentle face of the horse. Lauren also included an angel in Sandy's design — a reminder that the family's beloved horse would even stop when, on occasion, her rider fell off.



CARVER MAX LEMERMEYER labors to bring out Prudential's unique "personality."

Physically demanding

Carving on such a large scale and using only the tools that would have been used in the 1920s proved to be hard work for many of the volunteers. After all, one has to continually hit the end of a chisel with a mallet to remove large areas of wood. Perhaps because of this, women number only one to four among the carvers.

"A lot of our carvers who have done more than one horse are having to wear wrist braces, so it is physically demanding, no matter what your sex," Lauren observed. "You do have to build up strength in your hands in order to carve for long periods of time because of the

way you hold the chisel — the end is in the palm of your hand and the forefinger usually is extended the length of the chisel and pushes down. I also found it hard on my elbow."

Duncan Ireland, a 10th grade student, had been teaching himself carving for two years before he discovered the carousel project about a year ago.

"Just being around the carvers and seeing them handling the tools and the wood was worth the after-school hours spent sanding and buffing the horses," he admitted.

Finishing touches

Doug claims that it's the band of dedicated sanders like Duncan "who make the carvers and painters look better than they are." While an experienced carver takes approximately 250 hours to carve an average-sized horse and even more for an outer-row horse like Sandy, a sander will spend another 50 to 100 hours getting the finish on it porcelain-smooth in between the carving and the painting stages, lavishing it with three to five coats of primer.

It's in the 150 hours or so of the painting stage that the horse becomes a star. The painters — most of them happen to be women — use a colored pattern and at least four coats of enamel-based paint to turn the stately white statues into exquisite fantasy toys. They stipple the paint on the wood; that is, rather than drag the brush, they tap it on the surface and blend the colors wet-on-wet.

After letting it dry for at least two weeks, the painters clear-coat the horse — four coats all over and six coats on the saddle, nose, ears and any

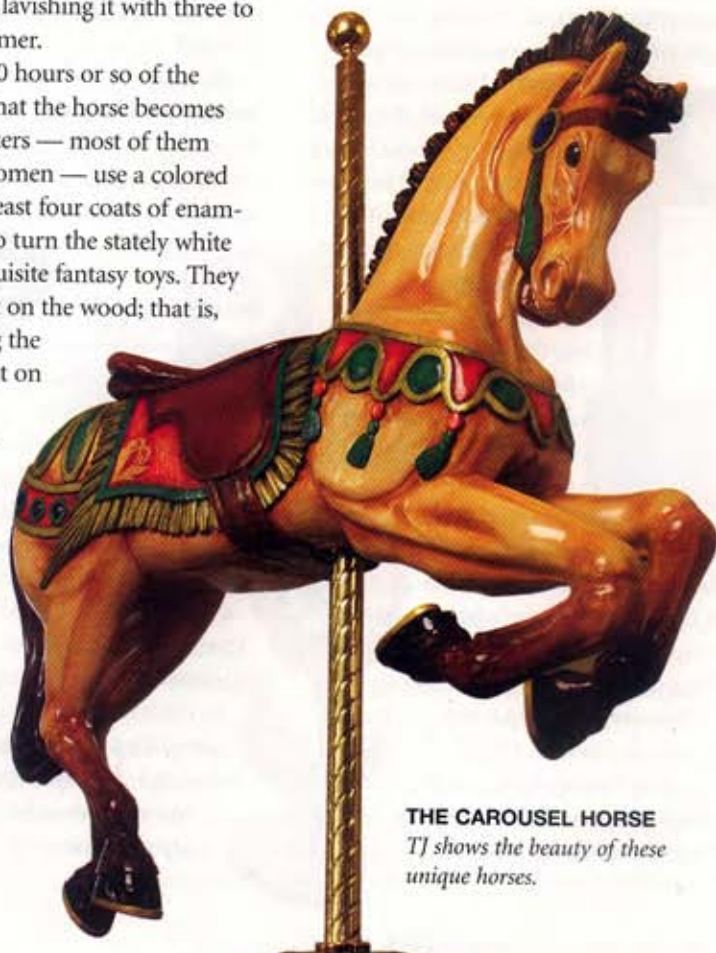
parts that stick out and are likely to get rubbed, bumped and touched.

Historic legacy

"Why do we do it?" Painter Kelly Johner is surprised at the question. "Mostly because it gives all of us a good feeling to be a part of something that is bigger than ourselves. This carousel will become a part of the history of our city as it has already been and now it will become a piece of ours personally as well."

Bohdanna Racette

Bohdanna Racette is a freelance writer from Gatineau, Quebec. After a successful career in the museums industry, Bohdanna is focusing on human interest stories about hands-on creators — whether they be artisans, artists or scientists.



THE CAROUSEL HORSE
TJ shows the beauty of these unique horses.

The Contest Chronicles

by Lori Mossor

Time and tide wait for no man ... or woman ... or child. *Woodcraft Magazine's* "Think Small, Win Big" Mini Clock Contest brought forth more than 100 Adult entries and 35 Youth entries, ages 6 to 81. The finalists were chosen, and soon boxes and boxes of projects filled our offices. The tick-tick-tick of all those clocks often made me wonder if I should run for cover.

After many years of working on this and other woodworking contests with *Woodcraft*, I've learned a few things about woodworkers.

Time to Create

Woodworkers love to create, often saving a prized piece of wood for just the right project. A woodworking instructor

gave **Dennis Rozak** of *Perkiomenville, Pa., p.44*, the piece of sumac he used in our contest. "The visible grain was so beautiful," he said, "I was saving it for something special."

Business card holders like the one submitted by **Jim Stoddard** of *Vancouver, Wash., p.44*, are great for using up small pieces of exotic hardwood you just can't

bear to toss out. **Ira Penn** of *Bellingham, Wash.*, made his "Clock Tower" entirely from scraps. "I save everything," Penn said.

Woodworkers are a very resourceful bunch. **Chuck Orwig** of *Kewanee, Ill.*, used a backyard tree limb as the base for his "Sun-dancing" flower



clock. **Dennis McGill** of *Rhineland, Wis.*, salvaged wood from a box elder tree his local turning club took down in his front yard. **Patrick May** from *Streamwood, Ill., p.41*, made his "World's Oldest Watch" from 5,000-year-old Irish bog oak found by farmers. The kids are catching on, too. **James Soelberg**, 16, from *Riverton, Utah*, used black walnut and benign wood recovered from shipping timbers for his clock project. Youth Division winner **Alex Moran**, 13, from *Lakewood, Ohio, p.42*, made his tapered post clock from firewood.

Woodworkers are ingenious, too. **John Santoro** of *Billerica, Mass., p.43*, signed his project by creating a paper label with a wood grain background, affixing it to the inside of his watch before applying polyurethane finish. **David Gustafson** of *Midland, Mich., p.43*, used a handy vacuum food packer "just for the fun of it" to layer the small pieces of wood in his clock project. "It actually worked quite well," he said. **Ethan Sincox** of *St. Charles, Mo., p.43*, combined two goals into one when he finished his clock entry in the form of an engagement ring box for his girlfriend, Dana. He engraved the date on the bottom of the box to signify the completion of his project — and so he wouldn't chicken out on the proposal.

Many woodworkers look for excuses to try new things or buy more tools.

Bruce Ferguson of *Summersville, W.Va., p.44*, did both. "This contest gave me the perfect opportunity to try a 3-D carving," says Ferguson of his carbide coal miner's lamp replica. "I also got to buy some new tools!" **Frank Burger, Jr.**, of *Austin, Texas, p.43*, really enjoys using his Beall Wood Threader, but found it difficult to come up with practical uses for threaded wooden dowels and wooden nuts. So he came up with a unique clock design that incorporated threaded wooden nuts to hold the body of the clock at the right angle.

Like any artist, woodworkers find their ideas and inspiration just about

everywhere. **Tom Hostelley** of *Milton, Pa.*, created a sculptured mini-chest clock with two drawers, mimicking a brass clock in his

parents' attic. **Young Garrett Weaver**, 10, from *Darien, Ill.*, drew on his career aspirations for his "Time Goes By So Fast" Pinewood Derby car, complete with a photo of himself dressed as a pilot with aviator sunglasses. "Someday I would like to be a pilot for American Airlines so I made my car look like their airplanes," he said. Stumped on what to create at first, **Randy Martelle** of *Rutland, Vt.*, finally decided to carve what he saw as he was contemplating: his hand holding the clock.

When given a challenge like the Mini Clock





Contest, many create items that are not only beautiful, but useful. **Bill Carlson of Pecatonica, Ill.**, made a handy golf bag watch that attaches to a belt loop or golf bag with a brass snap hook. **Marshall Lewis of Birmingham, Ala.**, made his clock a cell phone cradle. **Bonnie Campbell of Natchez, Mo.**, constructed a unique hickory clock that is also a turkey call, appropriately titled "Turkey Time." **Eric Davignon of Delta, Colo.**, crafted a buoyant fishing-themed keychain timepiece that will not only hold your Boston Whaler keys, but will give you peace of mind if you accidentally drop them into the bay. Since it can also be converted into a crawfish crankbait, "this keychain will be the envy of all your fishing buddies," Davignon said. Using a piece of wood from an old horse barn, **Charles Iannone of West Henrietta, N.Y.**, chose to create a functional beer tap handle clock named after a familiar saying: "It's After Noon Somewhere."

Then there are the woodworkers with truly kooky ideas. **Chris Black of Piqua, Ohio**, submitted a maple and walnut timepiece he called "Time on a Toilet": a tiny commode with the mini clock in the back of the tank. Not to be outdone, **Edwin Vance of Xenia, Ohio**, constructed his "My Favorite Time Out House" complete with mini rolls of toilet paper, reading material, Cincinnati Bengals décor, a large mouse and a dartboard. Vance's primitive two-holer outhouse even included an American flag and yellow ribbon to "honor our Nation and our eldest son, a U.S. Air Force pilot who has eight deployments to the Gulf to his credit."

Marta Amundson of Riverton, Wyo., submitted a functional crocodile



clock/memo holder titled "Keeping Time in Neverland." "My woodshop is a little like Neverland," she said. "No matter what I imagine, in the woodshop it becomes real." **Barbara Summers of San Antonio, Texas**, carved a dashing swashbuckler with a real feather in his cap. The clock was housed in the barrel under his left foot. "The Wildflower



Clock Tower" cottonwood bark wall hanging submitted by **Peggy Taylor, Wake Forest, N.C.**, was designed as a fairy tower complete with a wrap-around staircase. "Although fairies as a rule have no need to tell time, they do find a clock helpful in understanding the meanderings of the human species," she said.

Time to Teach

"It all started with a neckerchief slide in Boy Scouts," wrote **Reed McKissick of Corona, Calif.**, in his contest entry submission. Whether it was from a parent, a grandparent, a Scout leader or shop teacher, many woodworkers will tell you that their interest in woodworking was sparked by a mentor.

At Iowa Falls-Alden High School in Iowa Falls, Iowa, **Dave Bonde's Introduction to Industrial Technology**

class worked on mini clock designs. Bonde, the second-place winner in the adult division, **p.41**, says, "I really enjoy the design processes and problem-solving techniques I teach to my students, and a contest like this really pushes me to use those processes to the fullest."

Tim Teel of Lehighton, Pa., p.40, whose miniature guitar clock garnered him first place,



spent most of his life making wood products. "My passion for musical instruments was instilled in me at an early age by working with my grandfather in his workshop." Teel's grandfather lived across the street when he was growing up and the two spent many afternoons working on guitars together. Teel eventually grew up to work for C.

F. Martin & Co., guitar makers since 1833, as his grandfather did. First working in production right after high school, Teel now works in the Research and Development division of the company as director of instrument design.

Like many parents, **Wade Dalton of Hemlock, N.Y., p.41**, looks for excuses to spend time with his children. Dalton and his 10-year-old son **Christopher, p.42**, both completed projects for the Mini Clock Contest – and both received honorable mentions. They encouraged each other throughout the process to keep working to meet the contest deadline.

Don Bell of Boise, Idaho, echoed Dalton's sentiments. "The best part of this project was working alongside my 14-year-old twin boys who also entered clocks — their first woodworking projects." Bell's son **Jarrett, p.42**, won

second place in the Youth Division for his multi-layered timepiece. His other son **Chad** said, "I will remember this for a long time."

After **David Wolfe of Shippensburg, Pa.**, decided to enter the Mini Clock Contest, he thought his boys might like to make something, too. Son **Joshua, 15, p.42**, placed in the Top 8 Youth for his pinewood train clock. Younger son **Jeremiah, 11, p.42**, who received Honorable Mention in the youth division for his carved pine turtle clock, said, "My favorite part was getting to spend time with my dad and learning

new and better ways to craft the wood."

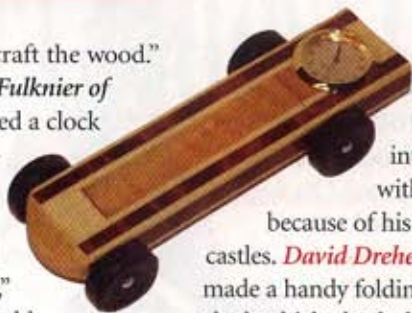
Seven-year-old **Caleb Fulkner of Groveport, Ohio**, submitted a clock entry along with his step-father, **John Savon**, and older brother, **Sam**. "I wanted to make a mantel clock like my mother has," Caleb said, while 11-year old Sam said, "It was fun learning to use the saws and then putting the finish on our clocks. We liked working together." **Jef Spencer of North Highlands, Calif.**, decided to make a Boy Scout Derby car while his 8-year-old son worked on his Cub Scout Bear Rank project. While working in the garage with his son, the younger Spencer suggested the mini clock "would look neat in your car" — so the Derby car also became the clock project called "Timesplitter."

Youngest contest entrant **Sam Gordon, 6, Berkley Heights, N.J.**, created an impressive box clock with scroll sawn accents. His father Dan Gordon used the Mini Clock contest as a special project for his Mahwah High School industrial arts class. Student entrant **Brendan Mooney, 15**, remarked, "Creating something that functions as a clock, but has our own efforts put into it is much more rewarding than just buying a Timex."

Youth Winner **Alex Moran, p.42**, spends a lot of time in his grandfather's shop down the street. Alex credits his grandpa for instilling him with a love of woodworking and says he'll create a blanket chest next because he has "a lot of stuff to store."

Time to Remember

Woodworkers have a very strong sense of family and loved ones. Their nearest and dearest often inspire them to create something special, like **Michael**



DiCentes of Cary Plantation, Maine, who made a mini intarsia castle clock with 30 individual pieces

because of his wife's affinity for castles. **David Dreher of Millville, Minn.**, made a handy folding travel clock which also holds family photos. As a gift for his daughter, **John Straub of Ridgefield, Conn.**, created a lovely purple-heart, oak and kwila timepiece that included places for her to insert photos of her two children.

Richard Roble of Rio Rancho, N.M., constructed a clock that symbolized his family and their heritage. The four-sided box featured silhouettes of his son and two granddaughters, and an oak leaf and acorn cut out to represent his lineage (their family name is the Spanish word for oak).

As a tribute, **Duane Eckard of Loves Park, Ill., p.44**, only wears his grandfather's gold retirement watch once a year when he attends his company's annual Christmas party.

"I am way too hard on watches," he said. The other 364 days, the watch will now be housed in a clever Clock Tower that unhinges only if you know the secret. "Not one person has come close to guessing how it opens," says Eckard. "It is a very nice feeling to have done something special for the watch, and for my grandfather."

Philip Dunn of Houston first had the idea for his alphabet block project when his daughter Andrea was in the hospital

in 2002, but he set it aside. His 36-year-old daughter succumbed to leukemia after a 10-month battle in 2003. When Dunn saw the contest, he quickly went to work to complete the design he had pondered at Andrea's bedside. The sides of Dunn's ambrosia maple "Alphabet Block Clock" include a carved silhouette of his daughter, her name, initials and birth date, and the clock.



Time to Give

There are so many ways woodworkers use their skills for the good of others. **Mark Hynek, of Hartford, Wisc., p.44**, is planning to travel to Costa Rica with his family this summer as missionaries. Hynek hopes to use his woodworking skills and tools to minister to teenage boys and young men.

Tim Teel's winning mini guitar will be placed in the C. F. Martin & Co. museum for all visitors to see and enjoy. Teel also makes decorative chisels with

pearl inlays, a skill he honed during his lunch breaks at Martin. To pass his knowledge on, Teel helps out at Northampton Community College's annual guitar design course in Bethlehem, Pa.

In looking through the photos and stories from woodworkers just like you,

here's hoping you, too, will be inspired to find the time to create ... to teach ... to remember ... and to give. That would truly be time well spent.



Lori Mossor

Mossor combines her passion for woodworking and crafts with her career as special projects manager for *Woodcraft Magazine*. Her skills include carving, making and decorating furniture, woodturning, and painting projects.



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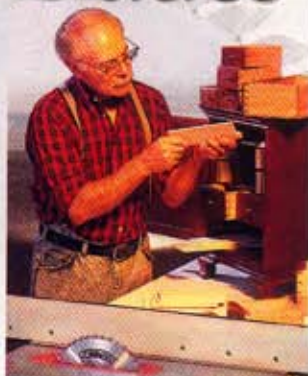
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MAKING AMENDS

Regluing is fairly easy, but broken parts can be complicated. A scarf repair is splicing new wood onto the old to make the broken part whole again.

By Bob Flexner



IT'S QUITE OBVIOUS that restoring this crest rail using scarf joints requires far less work (and also less skill with carving tools) than making a new part.

YOU PROBABLY SPEND MOST OF YOUR SHOP TIME BUILDING THINGS from scratch, but now and then you may be asked to repair some existing furniture that is broken. Repairs usually involve regluing or fixing broken parts.

Regluing is fairly easy for an experienced woodworker. In most cases it requires simply removing the old glue, applying fresh glue and clamping back together — the same as gluing up new furniture with the added step of removing the old glue.

Broken parts can be more complicated because they can't always be glued back together successfully. Some of the part may be missing or the break may run across the grain. In these cases new wood has to be spliced on to make the part whole again. This type of repair is called a "scarf" repair. It's the technique of patching or splicing a piece of wood onto the broken original at a long angle with the grain and then shaping it.



BROKEN TENONS ARE usually best repaired by scarfing on new wood. In this case it was possible to do so without disassembling the rocking chair.



BAD REPAIRS AT JOINTS can leave them so bunged up that the only way to repair them is to replace the entire part or scarf on new wood. Scarfing is less time consuming and makes color match easier because there is less wood to color.



TO MAKE A SCARF REPAIR first cut away the damage at a long angle to the grain using a bandsaw.

A scarf can be used in a great many situations, the most common and beneficial of which occur at joints where tenons have broken off or where mortises or dowel holes have been bunged up by previous repairs. The scarf replaces all the missing or damaged wood with sound wood so the joints can then be recut.

There are, of course, other ways to replace missing wood. In some cases, as with edges of table tops or corners of case furniture where the wood isn't structural, you can use an epoxy- or polyester-patching product to build out the damaged areas. But with joints, adding wood is the only repair that's strong enough to hold up in use.

You could also replace the entire part, and this is often the best way to go. But there are four situations when it's not:

- Significantly less work is required to scarf on a piece of wood than to make an entirely new part.
- Adding a patch can be done without having to disassemble the furniture.
- Making a new part will create color-matching problems while scarfing will avoid them.
- The piece has historical value, and you're able to retain more of that value by scarfing than by replacing the entire part.

SCARFING THEORY

Scarfing works because wood bonds well face-grain to face-grain but not well end-grain to end-grain or end-grain to face-grain. (This is the reason you can't just butt boards together to make furniture; you have to cut mortise-and-tenons, dowels or dovetails.) Therefore, when performing a scarf repair, you need to cut the



HAND-PLANE THE ROUGH scarf cut perfectly flat. If the part is still attached to the furniture, it can sometimes be a challenge figuring out how to hold the furniture steady.



WITH THE LONG ANGLED cut planed perfectly flat, lay out the angle on the replacement wood by holding the original up against it and drawing a line.



GLUE THE REPLACEMENT patch to the original. Framemaker's spring-miter clamps have built-in teeth for a firm grip and are handy for reducing sliding during glue up.



WHEN PATCHING AN EXISTING part, it's very helpful to draw an outline of the part using the original pieces. You can then use this outline to cut the exact shape.

parts at the longest angle possible with the grain.

Once you have determined the angle you want to cut, draw a line and then make the cut on a bandsaw. This will leave a rough surface, but it's easy to clean up and flatten using a hand plane.

Possessing the skills to tune, sharpen and use a hand plane are essential to accomplishing a scarf repair. It's rare that a machine tool can be used to create a perfectly smooth and flat surface on an already existing part.

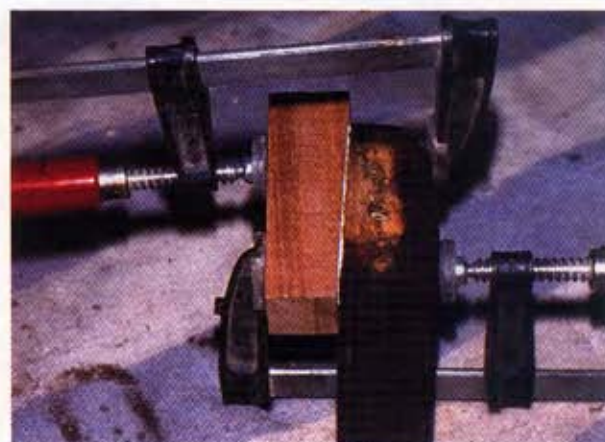
With the piece planed flat, cut a negative (a piece corresponding to the wood you have removed) from wood of the same species and with a similar grain pattern. Use old wood if possible when working on old furniture to make color matching easier and to reduce the stresses from uneven shrinkage and swelling. Old wood has "settled down" more than new wood.

In almost all cases, you should make the negative thicker and longer than it needs to be and then trim and shape it after it is glued up. Don't try to make an exact replacement, because it will probably slide a little during the glue up. A longer piece of wood is also easier to hand-plane perfectly flat than a very short piece. In fact, if the piece is long enough, you can use a stationary jointer to flatten it.

The trick to making the negative is to line up the grain accurately. An easy method of doing this is to hold the original part with the angled cut already made up against the board from which you're going to cut the patch. Line up the grain of the two pieces and then draw a line for the angle you're going to cut. Extend the line at both ends so the patch will be longer than necessary.

GLUING UP

Before gluing up, check that you have the angled cuts on



AFTER DRAWING AN OUTLINE of the part, plane the surface perfectly flat and glue on a patch.

THE PRACTICAL SHOP



USE THE OUTLINE you have drawn to help shape the part, then rebuild the joint using whatever tools necessary. In this case dowel points are used to identify where the dowel holes are to be drilled.



THIS BROKEN CHAIR RUNG had been previously glued, but there was too much end grain for the glue to hold. Scarfing instead of turning an entirely new rung saved more of the original color making the final color matching easier.



HERE ARE SOME scarfed spindles from the back of a chair in various stages of repair.

both the original part and the patch planed perfectly flat. Hold the two up against each other with a light source behind them. If you can see any gaps, the parts aren't flat. Remember: You need tight wood-to-wood contact the entire length of the joint to achieve the best bond.

When you're satisfied, glue the parts together. To keep them from sliding, insert a brad or use frame-maker's spring-miter clamps gripped at a 90° angle to the plane of the joint. These clamps have teeth or points to hold the parts in place so they don't slide.

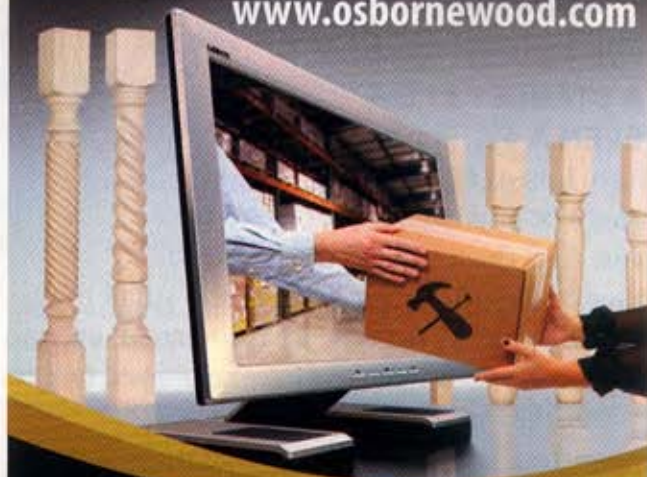
After the glue has dried thoroughly, remove the clamps and shape the patch using whatever tools are most efficient for the purpose. I find a hand, or "card," scraper very useful for the final shaping of most scarf repairs.

— Bob Flexner is author of "Understanding Wood Finishing," now in its second, fully revised edition.

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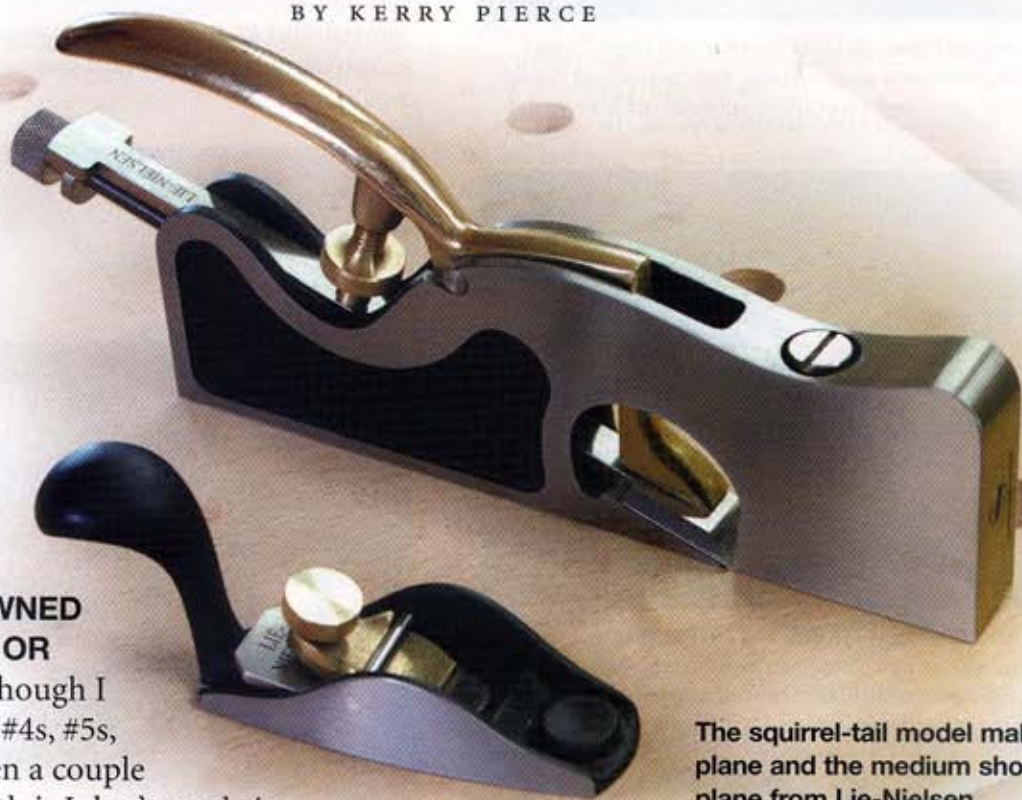
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ALL FEATURES GREAT AND SMALL

Two new planes from Lie-Nielsen let you get right up next to your work, and prove that being able to work on a small scale makes a big difference.

BY KERRY PIERCE



The squirrel-tail model maker's plane and the medium shoulder plane from Lie-Nielsen

I'VE NEVER OWNED A STANLEY #1 OR EVEN A #2,

although I have lots of #3s, #4s, #5s, #6s, #7s, and even a couple #8s. And the truth is I don't need either of the little guys. They're too small to do useful work. In fact, the #1 is too small even to be grasped in a meaningful way by a man with average-sized fingers.

But they're so cute.

And so, too, is the new model maker's plane offered by Lie-Nielsen Toolworks, Inc. Cute. That was my first thought after I'd torn open the shipping carton containing these two new planes. My second thought was that I would never find an application for this little squirrel-tail in my shop. Sure, a model maker would have lots of uses for this diminutive tool, but not someone like me who builds full-size furniture. So after cradling it long enough to warm its 8 oz. of iron and bronze to the approximate temperature of my hands, I set it on a shelf overlooking my bench and began to study the shoulder plane that had arrived in the same carton.



Squirrel-Tail plane

The next day, as I finished up construction of a hanging cupboard patterned after one in the Pleasant Hill Shaker community, I noticed a surface discontinuity on the cupboard's door frame. Typically, I would solve this problem with a bench plane — maybe my Lie-Nielsen #4½ — using it to level out the frame components. But this particular frame was nailed to the cupboard case just as the frame on the original cupboard had been nailed, and the discontinuity was closely flanked by the heads of a pair of 8d nails.

There simply wasn't room between the nails to operate a bench plane or even a block plane.

Well, not a regular block plane. My eyes settled on the squirrel-tail. This new model-maker's block plane with its 1¼"-wide body would fit very nicely between those nail heads.

I own other miniature or model-maker's planes, but they don't have the squirrel-tail feature, and I was surprised at what a difference that little bit of metal made in the tool's performance. The squirrel tail snugged up against the palm of my hand, allowing me to easily apply force to the plane without transmitting that force solely with the tips of my



BECAUSE OF ITS DIMINUTIVE SIZE, this block plane can fit into tight spaces like the joint between the 8d nail heads shown here.

fingers, which I was able to keep relaxed as I worked. The squirrel tail also increased my control. Simply by rocking my wrist one way or the other I was able to adjust the alignment of the plane's sole.

Like all Lie-Nielsen tools, this little gem is built to last with a ductile iron body, a manganese bronze lever cap and

an A-2 tool-steel iron. Also like all Lie-Nielsen tools, this one came ready to drive right out of the box, requiring no grinding or honing to take a good shaving.

Including its squirrel tail, the plane is less than 5" in length with an iron measuring a scant 7/8" wide. This makes it perfect for tight spots like the frame on my Pleasant Hill cupboard.

Unlike the Stanley #100 on which this little guy is based, the squirrel-tail has a low-angle iron bedded with the bevel up. The iron is secured with a bronze cap which is forced, by a brass machine screw, against a steel rod that runs across the body of the plane. Depth of cut and lateral adjustment are both achieved by hand. The iron is then locked in place by tightening the brass machine screw.

I believe this is a tool that will be used every day in the shops of craftsmen making miniatures or models. I believe it will also find occasional use in the shops of craftsmen like myself who build full-size furniture. The price is \$65.



Medium shoulder plane

Shoulder planes are designed to take fine shavings from the shoulders surrounding tenons. Because these fine shavings will be taken from end grain surfaces, often in cramped spaces, the task requires a well-designed tool manufactured to very close tolerances. The Lie-Nielsen medium shoulder plane fits the bill.

Right out of the box, I was able to make clean paring cuts on walnut shoulders, on poplar shoulders, and on cherry shoulders.

But for craftsmen who have never owned a shoulder plane — perhaps because the necessity of adjusting the shoulders around a tenon occurs too rarely in their shops to justify the cost — let me add that planing shoulders is just one of the many things a shoulder plane can do. In fact, it isn't even the thing it does most often in my shop.

I use shoulder planes to clean up dadoes and rabbets, and to shave tenon cheeks so they will better fit into their mortises. I use shoulder planes anywhere I need a plane with an iron that runs the full width of the plane.

In fact, if I were to recommend a plane collection for



THE MEDIUM SHOULDER PLANE makes clean paring cuts across the end grain surfaces of the shoulders surrounding a tenon.

a beginning craftsman, I think I would place a good mid-sized shoulder plane, like this one, directly after the smoother and jointer that should be first and second on the list. That's because every craftsman needs at least one plane that can work right up next to a surface 90° from the one being worked. Without a plane with an iron running the full width of the plane's body — à la the Lie-Nielsen shoulder plane — that craftsman will find himself trying to level tight corners with a paring chisel or, worse, with sandpaper.

Patterned after a Record 042, which was itself patterned after an earlier Preston, this plane has a proven design, one that shaves end grain the way I wish my razors would shave my face.

The plane is a carefully machined chunk of steel and bronze about the thickness of a Louis L'Amour paperback but with considerably more heft, 2½ lbs. to be exact. The body is 7¾" long, stands 3¼" high and is ¾" thick.

The bronze cap — the top of which is rounded for a comfortable fit against the palm of the hand — applies locking pressure with a bronze foot just behind the iron's ground bevel. Pressure is achieved by turning a knurled brass wheel under the cap, forcing a post below the wheel against the top of the iron midway along its length. This forces the back end of the cap up and the bronze foot on the front end of the cap down. The action of the bronze cap

is a little like the action of a teeter-totter with the fulcrum being a steel pin that passes through the cap with its ends housed in notches in the plane's ductile iron body.

This shoulder plane has two very desirable features not found in my other shoulder planes. First, the toe piece is adjustable, allowing me to open or close the mouth as I see fit. The other is a smoothly functioning depth-of-cut adjustment in the form of a knurled steel wheel at the end of the iron. The price is \$175.

The last word

If you suffer from the same addiction to woodworking planes that threatens to take over my life, you're going to want both of these tools. They're well made and eminently functional, and have considerable workshop presence.

If you're a maker of models or miniatures looking for a plane scaled for such work, look no further. The squirrel-tail is the tool you want.

If you're a maker of full-size furniture and you don't yet own a plane with a full-width iron, take a good hard look at the Lie-Nielsen medium shoulder plane. It won't disappoint you.

— Kerry Pierce, author of a dozen woodworking books and more than 60 magazine articles, lives in Lancaster, Ohio.

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BACK TO SCHOOL

woodworkingteachers.com

By Jack Grube

The screenshot shows the homepage of the Woodworking Teachers Network. At the top, it says "WOODWORKING Teachers Network" with a "Log In" and "Contact" link. Below this is a navigation bar with "Home", "Projects", "Tradition", "Safety", and "Buying Tools". The main content area has a "Welcome" section with text about the site's purpose and a list of resources for teachers. On the right, there's a "News & Notes" section with updates about the forum and a "New Discussion Forum!" announcement.

WOODWORKING Teachers Network

Log In | Contact

Home | Projects | Tradition | Safety | Buying Tools

Welcome

Woodcraft Supply Corp. is proud to be working with the New England Association of Woodworking Teachers (NEAWT) to develop this website to assist woodworking teachers around the country.

The intent of this site is to lead an initiative targeted to reverse current trends that indicate a nationwide decline of participation and support of classes and curriculums associated with woodworking programs. We have identified a need for advancing woodworking curriculum, as well as a requirement to continue to enhance the foundation of classroom excellence in these fields of study.

Our goal is to increase awareness by concentrating on promoting woodworking technology through enhanced instructional communication agendas, curriculum development and strategic partnerships such as our partnership with NEAWT.

Once you **Join the Network**, you are invited to:

- Connect with your colleagues
- Contact our woodworking experts
- Share your ideas
- Meet our endorsement partners
- And much more!

Resources For Teachers:

- Join the Network
- Projects
- Discussion Forum
- Competitions
- Professional Development
- Useful Links
- Home School Programs
- Funding Your Program
- Gallery
- Tradition of Excellence
- Start a Woodworking Association
- Survey

News & Notes

Learn from Craig Conrad about techniques to revitalize your woodshop!

See how Jack Grube formed the New England Association of Woodworking Teachers

New Discussion Forum!
We have a new place for you to meet your peers! Use the "Discussion Forum" to meet other woodworking teachers, share your experiences and help others in the field.

Once you're in the forum, and your ready to post a topic, click the "Register" link in the top right corner of the forum to get started. Enjoy!

WOODWORKING TEACHERS NETWORK. Teachers can connect with colleagues, contact experts, find instructional help and more at woodworkingteachers.com.

You can't stay in your corner of your forest

HOW MANY WOODWORKING programs exist in schools across America by comparison to 50 years ago? As a high school shop teacher I heard many estimates, but no one really knows. I decided to follow the advice of A.A. Milne's fictional character Pooh who once said, "You can't stay in your corner of the forest waiting for others to come to you. You have to go to them sometimes." Here's why I think existing programs need to network, and why we need to share with our communities what we do.

Networking

I'd like to begin in 2004 when I was introduced to Bob Spencer, director of education for Woodcraft Supply headquartered in Parkersburg, W.Va. The introduction was made by Doug Stowe, a woodworker and teacher in Arkansas with whom we were both acquainted. I mention that so you begin to understand the value of networking. During the first year, Bob and I discussed a variety of projects and ideas to support woodworking education.

One idea was the development of a Web site for woodworking teachers, woodworkingteachers.com. Growth was slow during the first year so a discussion forum was added to the Web site in January of this year. The idea proved successful. At the time of this writing over 80 teachers have joined the forum. Our goal is to double that number by the end of the year.

This relatively small number of teachers may reflect the infancy of this forum or it may reveal a larger concern. Shop teachers, according to my experience, are typically reclusive individuals who love what they do and spend their entire day helping students in their shops. In other words, they don't get out much. I once mentioned to a fellow teacher from another school that I had gotten to know the woodshop teacher at his school. His reply: "I didn't know we had a woodshop in my school."

Publicity

We need to tell people about our programs because publicity

strengthens programs. The future of many programs may some day rely on public support. We need to bring the public into our programs or bring our programs to the public. This past year I have had over 20 articles in local and state papers, magazines and trade publications about the program that I teach. Not long ago only my students knew what we did in this program. Publicity has dramatically changed the audience that now knows what we do and supports the program at Pinkerton Academy.

To advance this idea, I approached the Guild of New Hampshire Woodworkers with a request to fund a program designed to help publicize New Hampshire woodshop programs. They offered the financial resources for NEAWT (New England Association of Woodworking Teachers) to contract with Sullivan Creative to help New England woodworking teachers learn to market our programs. This winter, a letter was mailed to all middle school and high school principals, school boards and directors of career and technical centers in New Hampshire. It contained testimonials, an explanation of why woodworking education is important and a list of "21 Reasons Why Shop Programs Should Be in Our Schools in the 21st Century." Woodcraft Supply agreed to pay the mailing costs. The association will share the letter with anyone who wants to inform legislators and others.

The second component was a workshop for woodworking teachers to explain why it is important to market our programs and how that can be done. At the

WHY WOODWORKING EDUCATION IS IMPORTANT IN THE 21ST CENTURY

1. Assists students in communicating and understanding ideas nonverbally, through pictures, sketches, and technical drawings.

2. Enhances the skills of spatial visualization required for geometry, trigonometry, and algebra, thereby helping students to prepare for careers in engineering, architecture, and science.

3. Provides students with take-home, physical evidence of the mastery of their skills. The objects are prized and often kept for a lifetime.

4. Instills a pride of accomplishment and self-esteem.

5. Offers opportunities for students to go where their hearts desire by selecting designs and projects that motivate them not only as woodworkers but also as students.

6. Provides opportunities for students to overcome setbacks that occur when working on real objects.

7. Provides non-academic areas for demonstration of skills and pursuit of excellence.

8. Helps students gain confidence as real world problem solvers.

9. Helps students gain confidence in tool use and to learn safety considerations required for a career, a lifetime of general home maintenance or a lifelong hobby.

10. Offers an appreciation for the values inherent in skilled labor and the work contributions of others.

(For the complete list of "21 Reasons Why Shop Programs Should Be in Our Schools," visit woodworkingteachers.com.)

workshop, teachers created an event to promote their program(s) and wrote a press release using guidelines from Sullivan Creative. It was a practical exercise not only for teachers, but also for any group that wants to promote its activities. The workshop also addressed how to photograph a student's work, a popular topic to be addressed again at our November meeting.

Sharing

Just as these workshops will prepare us to share our programs with our communities, the Woodcraft Web site forum will allow us to share our programs with teachers across the United States.



What forum users are saying:

"With the loss of shop classes in many schools, there is also a loss of connection to other shop teachers. With the advent of this forum we once again have a community of teachers with which to share ideas, gain inspiration, and even on occasion, gloat about our students!"

Michael, California

"I think that this forum has the potential to be a tremendous resource for both new and veteran teachers. I have already found inspiration in some of the posts."

Joe, Virginia

With continued support from Woodcraft Supply and others, we hope to encourage teachers to look at what is outside their forests. It would be nice to someday know how many woodworking programs exist in schools across America.

— Jack Grube teaches and directs the woodworking program at Pinkerton Academy, Derry, N.H.

BACK TO SCHOOL



Networking benefits Oakes, Pinkerton

Graham Oakes, recently named winner of the 2006 Woodcraft Tradition of Excellence Award, represents Jack Grube's networking philosophy in action. Readers may recall that Graham was profiled in the April/May issue of Woodcraft Magazine.

After completing a basic woodworking course under Grube as a sophomore, Graham entered woodworking his junior year and became part of a one-time program called Creative Enterprise developed by Grube and woodturning specialist Beth Ireland.

Under Ireland's guidance Graham discovered his immense natural talent for turning and how to market what he made.

While Graham was honing his woodturning skills, earning awards and selling thousands of dollars' worth of his wood creations over a two-year period, Grube was networking to spread the word about Graham's phenomenal achievements as well as the Pinkerton woodworking program. As more people learned about

Graham, opportunities opened for him as a demonstrator, presenter and teacher, and the Pinkerton woodworking program gained positive recognition.

Graham continues to win awards and gain media attention for himself and Pinkerton.

Woodcraft selected him as grand prize winner from among monthly Tradition of Excellence winners in 2005-2006. Grube nominated him for the award initially, and Graham was one of the first monthly winners. Graham will receive a \$1,000 Woodcraft gift certificate, and a \$1,000 Woodcraft gift certificate will go to Pinkerton Academy. Publicity about the award reached media all over the country.

Not long after the award was announced, Graham was featured on "Chronicle," a WMUR-TV show that is broadcast throughout the state.

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New & Notable

(prices are approximate)

Make It Level

DeWalt Self-Leveling Rotary Laser

This exterior tool features a fully automatic horizontal self-leveling system for accuracy at plus or minus $\frac{1}{8}$ " per 100'. Features manual override option. \$1,000
woodcraft.com



Strive for Accuracy

Woodcraft Clamp Guides

These lightweight, easy-to-use clamp guides offer instant accuracy for cross-cutting and routing. Three sizes: 24", 36" and 50". \$30-\$40
woodcraft.com



Clamp More Efficiently

Ultimate Clamp Pad

Cushion, stabilize and elevate your work with this pad that magnetically adheres to standard $\frac{1}{2}$ " or $\frac{3}{4}$ " pipe clamps. \$10
woodcraft.com



Cut Straight, Splinter-Free

Festool Circular Saw TS 55

Do straight, splinter-free cuts on both sides of the blade, right out of the box, with this saw and guide rail system that features a retractable blade. \$430
festoolusa.com; woodcraft.com

Sharpen, Grind, Polish

JoolTool K12 Warrior Sharpening System

You can sharpen, grind, polish, sand, lap and deburr with this compact, multifunctional sharpening system. \$280
woodcraft.com



THE TOOLBOX



Clamp With Flexibility

Bessey 4" Vario-Clippix Clamp

The unique design of this clamp allows you to create an infinite range of openings up to 4" with constant, firm pressure at all openings. \$7
besseyclamps.com;
woodcraft.com



Measure With Ease

Spring-Loaded Digital Caliper

Make quick, accurate measurements for stock thickness, fitting joints or other tasks with this caliper you can fit in your pocket and use with one hand. \$70
woodcraft.com



Cut Perfect Circles

Milescraft TurnLock Router Circle & Edge Guide

Cut accurate circles and arcs up to 51" in diameter with this guide. Mounting or dismounting your router takes only seconds. \$35

milescraft.com; woodcraft.com



Dismiss the Dust

JDS Cyclone Dust Collectors

Available in two sizes, these compact, powerful dust collectors offer easy waste removal. 2HP, \$1,000; 3HP, \$1,495
jdstools.com; woodcraft.com



Keep Clean Quietly

Fein Turbo I Vacuum

Keep your shop clean with this powerful but quiet vacuum that can be used wet or dry and offers an automatic on-off switch. \$289
feinusa.com; woodcraft.com



Sharpen for Precision

DMT Diafold Sharpener

This double-sided sharpener offers extra-fine diamond (1200 mesh) on one side and patented unbreakable CeraFuse Ceramic (2200 mesh) on the other. \$36

dmtsharp.com; woodcraft.com



CALENDAR

Classes, shows, exhibits focus on woodworking. Find more at woodcraftmagazine.com.

California

CALIFORNIA CONTOURS 2006

June 1-25

Art Center, San Luis Obispo

Fifteen California chapters of the American Association of Woodturners showcase juried, lathe-turned work. Admission: Free
californiacontours2006.homestead.com

SAM MALOOF: DEAN OF AMERICAN FURNITURE MAKERS

Through Oct. 15

Mingei International Museum, San Diego

This 90th anniversary retrospective show features work from throughout Maloof's career. His furniture is found in several museum collections and the White House. Admission: \$6.
(619) 239-0003 mingei.org

FINE ART WOODWORKING EXHIBITION

July 7-30

Orange County Fair, Costa Mesa

This juried show of apprentice and master wood pieces by California woodworkers is sponsored by the Orange County Woodworkers in conjunction with the fair. Fair admission: \$8.
(714) 708-FAIR ocfair.com

DESIGN IN WOOD EXHIBITION

June 10-July 4

San Diego County Fair, Del Mar

The San Diego Fine Woodworkers Association will display winning entries



THIS WALNUT AND EBONY ROCKING CHAIR, crafted by Sam Maloof in 1996, is part of a 90th anniversary retrospective show of his works on exhibit until Oct. 15 at the Mingei International Museum in San Diego. (Photo by Anthony Scoggins)

from this juried exhibit and will do woodworking demos. Fair admission: \$11
(619) 422-7338 sdfair.com

Colorado

CREEDE WOODCARVING RENDEZVOUS

July 8-14

Mining Museum & Firehouse, Creede

Classes in carving, woodburning, woodturning and scroll saw. \$15 registration plus tuition for classes. Admission: Free
(303) 940-3505 creedewoodcarvers.com

Connecticut

BENT WILLOW FURNITURE

June 24-25

The Brookfield Craft Center, Brookfield

Make your own bent willow chair in this two-day class for all skill levels. Improvisation is encouraged. Tuition: \$250 plus materials. (203) 775-4526 brookfieldcraftcenter.org

BOAT BUILDING WITH AIMÉ FRASER

July 17-21

Woodcraft of Norwalk

Boatbuilder and author Aimé Fraser will teach students how to build a 12' sharpie style skiff. Tuition: \$475 plus materials. (203) 847-9663 stores.woodcraft.com/Norwalk

BUILD A UKULELE WITH STEVE MIKLOS

July 29-30

Woodcraft of Norwalk

Learn to assemble, trim and adjust a ukulele using a kit with instruction from experienced luthier Steve Miklos. Tuition: \$285. (203) 847-9663 stores.woodcraft.com/Norwalk

MAKE A FEDERAL STYLE DEMI-LUNE TABLE

July 31-Aug. 5

Connecticut Valley School of Woodworking, Manchester

Make a demi-lune table with furniture maker Will Neptune. Tuition: \$595 plus materials. (860) 647-0303 schoolofwoodworking.com

Idaho

HANDCRAFT A WINDSOR CHAIR

June 23-25

Woodcraft of Boise

Students will work with steam bent wood, use an adz and spokeshave and handsculpt a Windsor chair. Tuition: \$695. (208) 338-1190 stores.woodcraft.com/boise

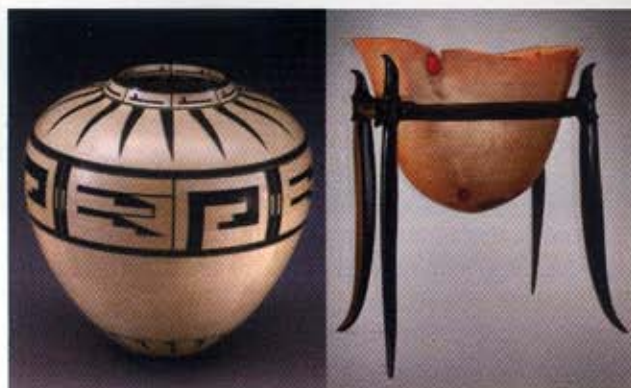
Indiana

COLLISION AT THE CROSSROADS: CONTACT, FUSION & OTHER HAPPY ACCIDENTS

June 7-10

Herron School of Art & Design, Indianapolis

Inventor Stephen Gass and multi-talented artist Tommy Simpson are keynote speakers for the Furniture Society's annual conference.



CURT THEOBALD OF WYOMING (*Gold of Cibola*, right) and **Pat Kramer of Hawaii** (*Vessel on a Stand*, left) are among presenters for the **Utah Woodturning Symposium** June 15-17 at Provo.

(401) 841-9201
furnituresociety.org

Kentucky

AAW SYMPOSIUM 2006

June 22-24

Galt House Hotel & Suites, Louisville

The American Association of Woodturners offer demos by 31 well-known woodturners, panel discussions, three exhibits and a lot more. (651) 484-9094
woodturner.org

Maine

TURNING BOWLS & MORE

July 24-28

Woodworking School of Maine, Rockport

Intermediate level students will explore the techniques and aesthetics of turned forms with turner/sculptor Betty Scarpino. Tuition: \$580. (207) 594-5611
woodschooll.org

Massachusetts CLAY MODELING FOR THE WOODCARVER

Aug. 5-6

Calvo Wood Carving School, Gloucester

Craft a clay model, building from the inside out, to improve your woodcarv-

ing, a process that works from the outside in. Tuition: \$250. (978-283-0231)
davidcalvo.com

New York

UPSTATE NY SCROLL SAW FESTIVAL & TRADE SHOW

July 22

Volney Firehouse, Fulton

The Sawdust and Woodchips Woodworking Association offers seminars, scrolling competition and a vendor auction. Admission: \$5. (315) 592-7354
sawdustwoodchips.org

WOODLANDERS GATHERING

August 25-27

Warwick

Fine and Rustic woodworkers join other crafts people



for this family picnic-like event which has over 40

different mini-workshops.
woodlanders.com

North Carolina

WOODSPIRITS

Aug. 4-6

John C. Campbell Folk School, Brasstown

Carve a woodspirit or mythical figure. Instructor Vic Hood covers technique, composition and character development. Tuition: \$235. (800) FOLK-SCH
folkschool.org

Ohio

AFTERNOON WOODTURNING SERIES

Fridays, July 14-Aug. 4, 1:30-4:30 p.m.

Woodcraft of Cincinnati

Students will learn to turn basic wooden forms with Instructor Robert Gulley. Tuition: \$200; materials: \$25. (513) 874-6181
stores.woodcraft.com/cincinnati

Oklahoma

WONDERFUL WORLD OF WOOD

July 7-8

Tulsa Event Center, Tulsa

Four woodworking groups are sponsoring this show and sale. Featured artist: caricature carver Lynn Doughty. Admission: \$2. (918) 628-0038
eowa.com

Tennessee

KIDS WOODWORKING CAMPS

June 19-22 & July 17-20

Woodcraft of Knoxville

Children eight and older will learn the fine art of woodworking. Parental release required. \$45 per session; \$200 a week. (866) 539-9330
stores.woodcraft.com/Knoxville

SCROLL SAW 102: INTARSIA BASIC

June 23-24

Woodcraft of Knoxville

Len Jusko will teach students intarsia artistry using a scroll saw and sander. "Intarsia Artistry in Wood" required. Tuition: \$135. (866) 539-9330
stores.woodcraft.com/Knoxville

VENEER BASICS & MORE WITH ALF SHARP

July 10-14

Appalachian Center for Craft, Smithville

Explore veneer with Alf Sharp, creator of museum-quality furniture. Tuition: \$375. (615) 597-6801
www.tntech.edu/craftcenter/

MAKE AN ADIRONDACK CHAIR

July 28-29

Woodcraft of Knoxville

Build an Adirondack chair with Thomas and Lynn Hitefield. Basic woodworking skills required. Tuition: \$195. (866) 539-9330
stores.woodcraft.com/Knoxville

Utah

UTAH WOODTURNING SYMPOSIUM

June 15-17

Brigham Young University, Provo

National and international woodturners will demonstrate their skills. A silent auction and gallery are also planned. Registration: \$270. (801) 422-2021
utahwoodturning.com

Woodcraft Magazine is happy to help publicize shows, classes and events of interest to woodworkers. Please send complete information on your event 60 days in advance to:

Events Calendar
Woodcraft Magazine
1101 Rosemar Rd.
P.O. Box 7020
Parkersburg, WV
26102-7020
Editor@Woodcraft
Magazine.com

OFFCUTS

The Folding Rule

by David Sapp

I was preparing to spend a week at a Windsor chair instructor training class. I had many of the tools that I would need packed into my toolbox but there were a few last-minute additions I needed to track down. I needed my folding rule. Where did I put it? Oh, yeah, it was in my oak toolbox on the top shelf in the classroom.

I went into the classroom, hefted the toolbox down and gently placed it on the workbench. As I lifted the lid, my eyes were instantly drawn to the folding rule in the top tray — the folding rule with all the numbers worn off. A wave of emotion swept over me and stopped me dead in my tracks. I had to close the lid, stop and compose myself. That rule was not the rule I was looking for. It was HIS rule, and the numbers were worn off by HIS hands ... and HE was gone. I realized that I would never see him slip it in and out of his blue striped bib overall pocket again. I would never see that rule in his hands — hands that were so frail from 95 years of wear, yet so strong with 95 years of wisdom. I would never hear his wonderful stories again.

HE is my Grandpa Virgil, and HE is the reason I love working with wood. As long as I can remember, I loved spending time with Grandpa. He had wood and he had tools, but most of all, he had a desire to share. He shared his knowledge, he shared his passion, and he encouraged my brother and me by allowing us to help him. When I saw that rule, all those emotions and memories came crashing back in an instant ... and in that instant I really missed my grandpa.

Over the next couple of weeks, I thought about that moment, and I asked myself: What am I doing to make a difference in a young person's life? Am I doing the things that will spark the same emotions from someone in my family? What kind of legacy will I leave when I'm gone?

I challenge you to ask yourself the same questions. With the school woodshop all but extinct, today's youth have fewer people with a love for

woodworking to share that passion with them. In this age of television, computers and video games, young people need someone to encourage and mentor them. You can do that by creating a structured environment that encourages children and teens to develop a lifelong interest in woodworking.

My son began helping me in the workshop at a very early age. His first project was a miniature table and chairs set he built for his mother out of scrap wood that he found in the workshop. He drew the pieces out and asked me to help cut them. It wasn't a masterpiece, but it was a treasure which we still cherish some 15 years later. Our last project was to make a "New Yankee Workshop Episode." Three recipe boxes in 35 minutes, complete with all the bloopers, was an experience to remember long after he went off to college.

There are many safe, enjoyable things to do with kids in the shop. The scroll saw is a safe tool to use; the only limits are your imagination. The lathe offers a tremendous opportunity for fun, simple projects. You can turn a wooden pen in less than one hour. What a great way for kids to personalize holiday, Father's Day, Mother's Day or birthday gifts and build self-esteem and confidence. You can show them how to create a treasure with their own two hands.

The patina on Grandpa's folding rule is like that of a fine antique. It wasn't created in a single week, not even a year. It was created over a lifetime. You, too, can make a difference in a young person's life by sharing your passion for woodworking. It may take a lifetime but the payoff, your woodworking legacy, is well worth the investment.

David Sapp, the owner of the Nashville Woodcraft Store, is an avid woodworker who enjoys sharing his passion for woodworking with others.





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ProFence™ 40-006. This is the strongest and most feature-packed fence on the market today. Comes complete with dual position safety bit guard, sliding subfences, front and back T-slots and 2-1/2" dust collection port.

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Power-Loc Safety Switch
40-028



ProLift MAX
40-016



Drawer Bank Option
40-009



Feather-Loc Pair
40-011



Cab-Loc Casters
40-008



Dept: 06WD07P

* Router Table System is pictured with optional accessories.

QUALITY WOODWORKING TOOLS • SUPPLIES • ADVICE™



"INNOVATIVE"
—WORKBENCH MAGAZINE



AWARDED MOST INNOVATIVE

History has a tendency of repeating itself and it has with the revolutionizing POWERMATIC PM2000 10" Tablesaw. Following its time-honored Model 66, the PM2000 has it all and then some. Equipped with the industry's first arbor lock, an integrated castor system, a true quick release riving knife and blade guard system, this machine is a powerhouse. Backed with the industry's most durable 5-year warranty, this line comes in 12 variations. Find the model most suitable to your needs at a local POWERMATIC dealer or at www.powermatic.com/wc



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