

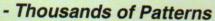
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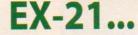




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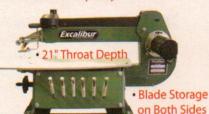
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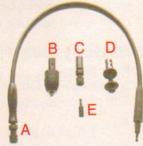
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# FALL 2008 ISSUE 32

# SCROLLSAW Woodworking & Crafts





with these delightful

jointed skeletons.

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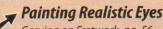
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**Bob Duncan** 

#### Behind the Scenes

I recently returned from Texas, where I gave a seminar on how to get published in Scroll Saw Woodworking & Crafts at the Dallas Scroll Saw Picnic. It was fascinating for me to meet potential authors in person. In today's digital age, I may work with an author for years and never meet them in person. While preparing for the seminar, I realized that finding good contributors is only half the battle.

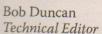
Each article published in SSW&C requires behind-thescenes work. Articles are edited and revised. Patterns are redrawn and tweaked. And projects are often cut, assembled, and finished by test cutters.

Sometimes great designs come from people who have never touched a scroll saw-a test cutter can take the artist's vision and bring it to life in wood. Test cutters also play a key part in trouble shooting complex projects and making sure the instructions are easy to follow. Often we come across an ingenious project that needs to be dressed up a bit to reach its full potential. Long-time test cutter Ben Fink was enlisted to create the executive versions of the Spypod and the Wooden Puzzle Vault. Both of these projects were amazing in their initial versions, but it was Ben's top-notch execution that gave them the cover-worthy status they deserved.

The first qualification of a test cutter is dependability. If a test cutter commits to having a project completed by a specific date, we expect them to follow through. Superior cutting skills are a must. The finished artwork must match the patterns exactly. Test cutters also need to be problem solvers. These woodworkers often adapt the pattern or change the technique to make it easier to cut and assemble. They also flag unclear instructions or errors in the article. Test cutters need the experience and skill to apply a variety of finishes to showcase the project in the best light.

As the magazine continues to grow, we need more test cutters. Luckily, we have the best resource around—our readers! Test cutters get a sneak preview of upcoming projects, and best of all, they get paid for what they love to do. If you are interested in becoming a test cutter for SSW&C, log on to www.scrollsawer.com and click on "test cutter pattern." Internet access is preferred, but not strictly required. The test project is the heart frame by John A. Nelson, which appeared in SSW&C Spring 2008 (Issue 30). Forward a good, clear photo of the completed project along with how much you would charge for your services to: Test Cutter Audition, c/o

Scroll Saw Woodworking & Crafts, 1970 Broad St., East Petersburg, PA 17520, or email Duncan@ foxchapelpublishing.com. Finalists will be asked to mail their completed project for closer examination. We're looking forward to adding several new test cutters to the magazine.





The filigree heart frame by John A. Nelson, cut and finished by David Penman.

Printed in the USA

FALL 2008

Volume 9, Number 3, Issue 32

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#### Contributors AUTHOR SPOTLIGHT

#### **Ben Fink**

Test cutter

Ben Fink of Elizabethtown, PA, owns and operates Ben Fink's Wood Shop, selling Pégas scroll saw blades and scroll saw patterns. He is a regular test cutter for SSW&C. A third-generation woodworker, Ben progressed from remodeling homes to furniture building and antique reproductions. With his well-equipped shop, Ben can handle nearly any woodworking project, but prefers projects involving a scroll saw. Ben's portrait of Jesus, which he designed and cut from wood he harvested and prepared himself, won Best in Class at the Lebanon, PA, SAW contest in 2004. For more of his work, visit www.bensscrollsaw.com.

#### **Dick Miraglia**

Carving on Fretwork—page 56

Dick Miraglia, of Pocono Lake, PA, has always enjoyed woodworking. After retiring from his private practice as a family physician and medical consultant to the Salk Institute, he was able to devote more time to his hobbies, such as woodworking, bonsai trees, and painting. Four years ago, his three children gave him a scroll saw for his birthday. He received multiple ribbons at the Pennsylvania Scrollabration, including Best of Show in 2006 and 2007. His work has been displayed in art shows and galleries, on the Dremel and the Delta/Porter Cable web sites, and in magazines.

#### **Carole Rothman**

Ribbons and Bows Box—page 41

During her career as a psychologist and college professor, Carole Rothman pursued her interests in crafts. The Somers, NY resident is a nationally-known cake decorator and has taught other professional decorators her methods. After taking up scrolling and mastering the basic skills, she began giving her projects a distinctive look by applying techniques from her cake decorating background. As one of only a few women in her community woodcraft club, she's won the respect of male club members who previously did not consider the scroll saw a "real tool."

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# Discontinued Danish Oil?

I've used Watco Danish Oil (produced by the Rust-oleum® company) for years to finish my projects. I went to the hardware store recently and they didn't have any Watco Danish Oil on their shelves. The store clerk said the product is discontinued and is no longer available. I like the results I get when I finish my work with Watco. Will they be offering an alternative product? What can I use as an alternative oil finish?

Roger Sprague Falconer, NY



Watco Danish Oil is a popular finish among scrollers.

Editor's Note:

According to Rust-oleum officials, Watco has not been discontinued. The manufacturer's

website lists several sources for Watco Danish Oil, including Lowes, Home Depot, and even Wal-Mart. If you are having a difficult time finding Watco in your area, you can purchase it through a number of mail-order suppliers, such as Woodcraft (www.woodcraft.com, 800-225-1153).

In most cases, the composition of Danish oil is similar regardless of the brand. If you prefer a Danish oil finish, try a different brand. Many manufacturers make a variety of oil finishes, including tung oil finishes, antique oil finishes or teak oil finishes. While the gloss of the finish can vary between oil finishes, the ease of application is similar. Some scrollers even use straight boiled linseed oil, which is the base for many oil finishes.

In his book Understanding Wood Finishing, (available at www. FoxChapelPublishing.com), Bob Flexner states that Watco Danish Oil is a combination of oil finish and varnish. Most other Danish oil finishes fall into the same category. They produce a satin sheen and cure relatively slowly.



#### Recycling

I'm starting to get a lot of scrap plywood pieces; the remnants of my puzzle production. I try to save most of it, but there has to be a limit. Is there a way to recycle plywood? Also, I have been saving my scroll saw blades as they get dull. Can they be recycled? What do other scrollers do with them? I thought about trying to glue a few together for a make-shift scroll saw dado blade. Do other readers have any ideas or suggestions?

Thom Spencer Montgomery Village, MD

Most woodworkers save hardwood scraps. Do you save old scroll saw blades and plywood scraps as well? How do you use them? Send your tips to Scroll Saw Woodworking & Crafts, 1970 Broad St., East Petersburg, PA 17520 or email Duncan@FoxChapelPublishing.com.



#### **Checkerboard Dimensions**

The materials list for the Classic Compound-cut Checkers Set in Summer 2008 (Issue 31) provided an oversized dimension for the game board backing. The instructions did not specify to trim off the excess. If you cut 1½" x 1½" squares, and your border is ¾" wide, you will need to trim ½" off two sides of the backing board. For an exact fit, dry fit the squares and border, mark the excess, then adjust the size of the backing board accordingly.



#### Fox Hunt

Sue Griffiths of Great Yarmouth, UK, and Fernando Fernández of Bayamón, Puerto Rico, were randomly drawn from the participants who located the fox in our last issue (Summer 2008, Issue 31). The fox was hiding in the photo of Cheri Feldhausen's basset hound intarsia in the bottom left corner of page 67.

If you find the fox in this issue, contact us and tell us the page number and location. Two readers randomly selected from all correct replies will receive a \$25 Fox Chapel Publishing gift certificate. Entries must be received by Sept. 1, 2008 to be eligible. NOTE: The contest fox is an outline drawing that faces left if his feet were on the "ground" (other foxes appearing in SSW&C don't count).

Send your entry to Scroll Saw Woodworking & Crafts, Attn: Find the Fox, 1970 Broad St., East Petersburg, PA 17520, or enter online at www.Scrollsawer.com.

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# Shop-Made Finishing Box

I have a small shop, so space is a premium.
I don't have the luxury of creating a
sawdust-free area for finishing. Nothing
is more frustrating than finding dust and
debris in your newly applied finish. To solve this
problem, I made a small portable finishing station
using scrap lumber and the heavy, flexible plastic
container in which comforters and blankets are sold.

My plastic container is 9" x 18" x 22". It's big enough for most scroll saw projects. I created a simple box-frame to hold the container open. Make the box slightly smaller than the inside of the container. You don't want to stretch the plastic and risk tearing it while inserting the frame.

The station can be used in an upright position or laid on its side for horizontal projects. The zipper

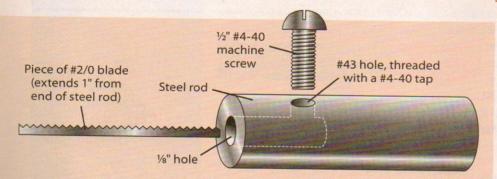


Clever recycling produces a dust-free finishing area.

provides easy access and closes quickly to keep the dust out, so I can get a smooth finish.

My frame is solid, but you could use hinges to make a collapsible frame for easy storage. Staple some cardboard or masonite to the bottom and back of the container to make it more stable. You could also string wire across the top of the frame to hang items to dry.

Michael E. Dingas Warner Robins, GA



#### **Quick Guide for Bottom-feeding Saws**

I've found a quick and easy way to help guide my blade through even the smallest blade-entry hole. To create this simple jig, drill a small hole in the end of a piece of scrap wood and epoxy a 1"-long piece of an old #2/0 blade in the hole. Feed the #2/0 blade down through your blade-entry hole from the top. Use your fingers to line your cutting bade up with the blade guide and side it up through the hole. If the made in the jig gets bent, simply make a new one.

To make a more durable version, I use a piece of steel rod. Drill a %"-diameter hole through the end of the rod, then drill a #43 hole from the side to meet the first hole. Thread the second hole with #4-40 tap. Insert a piece of blade through the %"-diameter hole and thread a ½"-long #4-40 machine screw into the tapped hole to lock the blade in place. The blade guide can easily be replaced by loosening the screw.

Chuck Bookbinder
Greenlawn, NY

#### **Noisy Dust Collector**

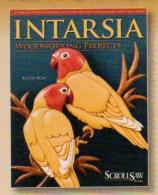
I am very conscious of the dangers of dust inhalation. My Hegner saw has a built-in dust extractor. I connect the extractor to a small domestic vacuum, and it collects most of the dust at the source, before it spreads out around my workshop. The one downside of the vacuum is the noise. To cut down on the noise, I put the vacuum in a different room of my workshop and close the door as much as possible. While you can still hear the vacuum, I prefer the noise to finding my nose blocked up with sawdust at the end of a marathon scrolling session.

> **Gordon L. Degg** Stoke On Trent, Alsager, UK

TOP TIP in our holiday issue wins a Galaxy 23 gauge pin nailer from Wildwood Designs! Send your tips or techniques to Bob Duncan, 1970 Broad

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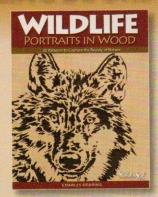
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#### **Last Supper**

Lyndel Evans of Lubbock, TX, created this intarsia scene based on the Worthington House pattern. He used more than 20 varieties of hardwoods to create this project, which measures 32" x 39". It consists of approximately 750 pieces.



#### **Butterfly Puzzle**

Dave Snyder of Belvidere, NJ, designed and cut this butterfly puzzle out of walnut. Dave says the design of the puzzle makes it easy to cut, but difficult to solve.

#### Intarsia Paper Towel Holder

Chris Culbertson of Brownsville, OR, embellished this paper towel holder with a squirrel intarsia. Chris used alder, aspen, walnut, and birch on this project. The pattern was designed by Kathy Wise and was featured in the SSW&C Ultimate Scrolling Pattern Collection, Vol. 1.

**Share Your Latest Work!** Send a slide, professional print or digital image (300 dpi minimum) with 100 words about you and your piece. Include your hometown, the name of the pattern maker and a list of woods and materials used. Send to Bragging Page, *Scroll Saw Woodworking & Crafts*, 1970 Broad Street, East Petersburg, PA 17520 or email to Duncan@FoxChapelPublishing.com.

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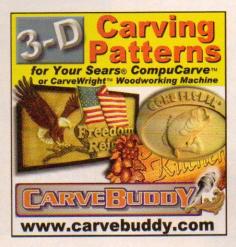
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#### **Dragon Candle Holder**

Matt Smith of Kannapolis, NC, created this candle holder based on a pattern by Rick Gray. The dragon is cut from '%"-thick Baltic birch plywood. The backing board is Baltic birch plywood painted metallic green. The candle holders are made from ½"-thick poplar.



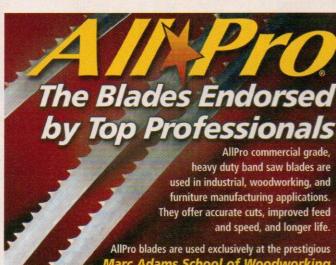
#### Fretwork Clock

Charles Allen of Knoxville, TN, cut and built this clock based on a design by Dirk Boelman. Charles, who has been scrolling for more than 20 years, used Baltic birch plywood and solid walnut for the clock. The base is made from pine.

#### **Nightmare Before Christmas**

Michael Haire of Ferndale, MI, used a combination of painting and scroll sawing to create this scene from Tim Burton's movie, *The Nightmare Before Christmas*. Michael has been scrolling for about eight years.





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#### **Scroll Saw Class**

The Woodcraft Store in Reno, NV, recently hosted a scroll saw class. Ken Bruzda, of Topaz, CA, taught the intermediate-level class on May 10. He teaches a four-hour beginner class and a four-hour intermediate class each month. Due to a limited number of saws available, each class has a maximum enrollment of six students. The classes usually fill up quickly.

Intermediate students can choose from a number of projects. Ken shows them how to stack cut pieces, how to tilt the table for beveled cuts, and how to cut metal. Most

students chose to make a fretwork butterfly or a fretwork teddy bear. The projects are challenging enough to increase the student's scrolling skills, but can still be cut in one day. Students apply a final finish to their projects at home.

Woodcraft, Rockler, and many other woodworking stores offer similar classes. Check your local store for available classes and times.



#### Call for Entries

Students and professional crafters are invited to enter the NICHE Magazine 2009 Awards competition. Finalists are invited to display their work at the February Buyers Market of American Crafts in Philadelphia. Participating in the display exposes finalists' work to thousands of buyers from across the country.

Winners will be announced at a special ceremony held during the February buyers market and will be featured in the Spring 2009 issue of NICHE magazine.

Application forms, rules, and guidelines for the 2009 program are now available. The entry deadline for professionals is Aug. 30. Deadline for student entries is Sept. 30.

Judging of entries is based on three main criteria: technical excellence in surface design and form, market viability (professional

#### **Scrolling Events**

Jul. 12-13. OHIO. 4th Scrollsaw Association of the World Expo, WILMINGTON (Roberts Convention Center). Sat. 9am-4pm & Sun. 9am-3pm. Adm. \$10 both days (pre-registration only), \$6 each day at the door. Contact: Toby Tyler, 937-492-3486, tyler740@earthlink.net, or Lucille Brooke, 610-775-0871, lucyq3@verizon.net.

Aug. 1-2. WISCONSIN. Midwest Scroll Saw Trade Show, RICHLAND CENTER (Richland Center High School Field House). Fri. 10am-4pm, Sat. 8am-4pm. Adm. \$5. Contact Floyd and Carol Hacker, 888-322-2432, or Dirk and Karen Boelman, 800-566-6394, www.midwesttradeshow.com.

**Sep. 24-Oct. 16.** CALIFORNIA. 2008 Marquetry Show, San Jose (Martin Luther King Library). Marquetry pieces from art galleries around the country will be on display and there will be a marquetry panel on Sept. 27. Free adm. Contact Ken Horner, klhorner2@aol.com.

**Nov. 8-9.** OHIO. 27th Annual Artistry in Wood Show, DAYTON (Expo Center, Dayton International Airport, 3900 McCauley Dr.). Sat. 10am-6pm, Sun. 10am-5pm. Contact Sandra Czjka, 937-339-2786, www.daytoncarvers.com.

entries only), and a distinct quality of unique, original, and creative thought. Notifications will be sent in November/December 2008.

For more information, visit www.AmericanCraft.com.

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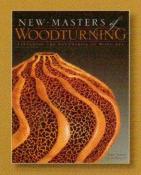
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POLICE

By Bob Duncan, Technical Editor

# Excalibur EX-30 Scroll Saw

The Excalibur EX-30 is one of the largest saws on the market. The generous 30" throat means you can cut projects up to 30" long without using spiral blades. The EX-30 is also capable of cutting wood up to 2" thick.

General International redesigned the EX-30 scroll saw using the same technology which debuted on the EX-21. The most significant change is that the EX-30 now features a tilting head instead of the traditional tilting table. Scrollers will also notice the

Excalibur's trademark purple color has been replaced with the traditional green historically associated with all General tools.

#### **Tilting Head**

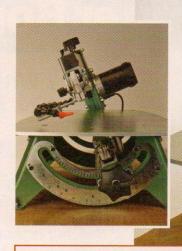
The first thing that struck me about the EX-30 is how easy it is to square the blade with the table. With other saws, you tighten the table-locking screw enough that the table does not move, but loose enough that you can adjust the table with a well-placed rap. The rack-and-pinion system that controls the tilting head makes squaring the blade as easy as turning a knob.

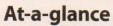
On most saws, the angle marks that indicate the tilt of the table can't be trusted for perfect accuracy. But that's not the case with the EX-31. It features a spring-loaded cam that locks into precision-machined holes at most common angles. When I used the cam to lock the head at 0° (no tilt), the blade was perfectly square to the table. It took seconds to do a job that can take me several minutes with other saws.

#### **Convenient Controls**

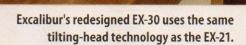
The power switch and speed control are both conveniently located on the front of the scroll saw arm. The quick tension release is right above the blade-locking thumb screws.

Unfortunately, the blade-tensioning knob is on the back of the arm, and since that is more than 30" away from the front of the saw, you need to stand up or lean quite a bit to adjust the blade tension. I prefer the





- Large 30" throat depth
- Tilting head for easy angle cutting
- User-friendly blade clamps
- Power and capacity to cut large and thick stock
- Top or bottom feed for blade-entry holes



tensioning system on the EX-21, where the tension control is located at the front of the arm.

#### Other notable features

When it comes to cutting, the saw breezes through even the hardest woods. I cut a unicorn puzzle, designed by Judy Peterson, out of black Alowood in less than an hour. Black Alowood

is supposed to be as hard as ebony, and it's the hardest wood I've cut. At the EX-30's top speed, I didn't notice any speed reduction or power loss; the saw cut as fast as I was comfortable feeding the wood into the blade.

The EX-30 is set up to feed the blade through bladeentry holes from the top or the bottom. I prefer top feeding, which means that I loosen the blade from the bottom holder and lift the saw arm to remove the blade from the fret. From there, it's a simple matter of positioning the blade over the next blade-entry hole and feeding it down through the hole. The bottom blade holder features a slot that you slide the blade into. It's much easier than some other saws where you have to line the blade up with a small hole.

Initially, the dust blower wouldn't stay where I positioned it. I talked with Ray Seymore from Seyco (the largest retailer of Excalibur tools in the United States). He suggested I remove the "pop link" where the dust blower connects to the scroll saw head. I took out a link, pushed the blower tube back onto the connector, and was back scrolling in minutes.

With its tilting head, which makes setting cutting angles a breeze, and the ability to cut large stock with ease, the EX-30 is an excellent choice for serious scrollers.

The EX-30 retails for \$999 + \$119 s&h without a stand, and \$1,149 + \$131.75 s&h with a stand, which puts it in the same range as the Hawk G4 and the Hegner Multimax 18V. The EX-30 is available from Seyco, 800-462-3353, www.seyco.com.



If just wanted to thank you for the CD and send you a copy of my first project. My Grand-daughter My daughter freaked, loved it. The whole family is standing in line to have their photo cut next. Keep up the good work. Thanks again,"

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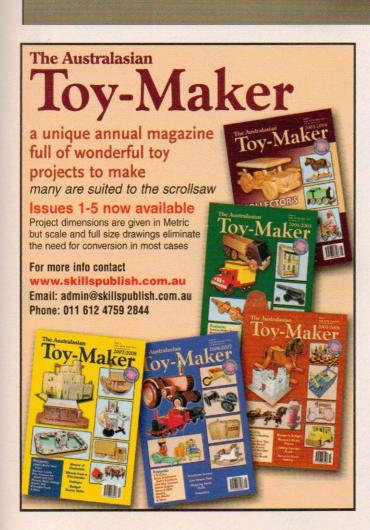
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#### **Attaching Patterns**

Temporary-bond spray adhesive is the most common method used to attach patterns to stock. Photocopy the

pattern. Spray the adhesive on the back of the pattern, wait a few seconds, and press the pattern down onto the blank. Rubber cement or glue sticks work similarly.



You can also use graphite or carbon transfer paper. Place the pattern on your blank and slip a sheet of transfer paper in between the pattern and the blank. Use a few pieces of painter's tape to hold the pattern and transfer paper in place. Trace around the pattern with a red pen (so you know where you have traced). Choose a light-colored transfer paper for darker woods. Carbon paper costs less than graphite paper, but must be sanded off before finishing.

#### **Removing Patterns**

Dampen the paper pattern with mineral spirits to aid in removal.
Commercial adhesive removers work as well. A quick wipe of mineral spirits will remove most adhesives left behind on the wood.

#### **Blade-entry Holes**

Some patterns have blade-entry holes marked. If the pattern doesn't, place the holes near a line to be cut to prolong your blade life, but don't place



the hole on a curving line or inside corner (if possible). Drill the hole perpendicular to the blank. Use a drill press if you have one; otherwise the holes may interfere with

delicate fretwork. Drill through your blank into scrap wood to prevent tear out on the back side of the blank. If you have the space, use a larger bit—it will make it easier to thread your blades through. For thin veining cuts, use the smallest bit your blade will fit through.

#### **Blade Tension**

Before inserting a blade, the tension should be completely removed. Clamp both ends of the blade into the blade holders and adjust the tension. Push on the blade with your finger. It should flex no more than 1/8" forward, backward, or side to side.

A blade that does not have enough tension will wander. It will also flex from side to side, making for irregular or angled cuts. If you press too hard on a loose blade, it will usually snap.

A blade that has too much tension is more susceptible to breaking and tends to pull out of the blade holders. In general, it is better to make the blade too tight rather than too loose.

#### **Squaring Your Table**

Most scroll saws have an adjustable table that allow you to make cuts at different angles. There are times when you want your saw set at an angle, but most cutting is done with the blade perpendicular to the table. If the table is even slightly off-square, your cuts will be angled. This interferes with puzzle pieces, intarsia, segmentation, and many other scrolling projects.

The most common method for squaring your table is the small square method. Set the square flat on the saw table against a blade that has been inserted and tensioned. Adjust the table to form a 90°-angle to the blade.

blade.

The cutting-through method is also popular. Saw through a piece of scrap wood at least 3/4"-thick and check the angle of the cut using a square.

Adjust the table until you get a perfectly square cut.

To provide more projects per issue, we have consolidated basic scrolling information here. Because our articles will no longer cover these basics, we will publish this page in each issue to assist novice scrollers.



You can also use the kerf-test method. Take a 1¾"-thick piece of scrap and cut about 1/16" into it. Stop the saw, and spin the wood around to the back of the blade. If the blade slips

easily into the kerf, the table is square. If it doesn't slide into the kerf, adjust the table and perform the test again until the blade slips in easily.

#### **Stack Cutting**

Stack cutting lets you cut several pieces of a project—or even several projects—at one time. Essentially, you attach several blanks together, and cut them as one unit.



One way to attach blanks is with tape. Line all the layers up and wrap a layer of tape around the outside edge. You can also wrap the whole stack in tape for extra stability. Scrollers

can use either masking tape, painter's tape, or clear packaging tape.

Another method uses hot-melt glue. Glue the blanks together with a

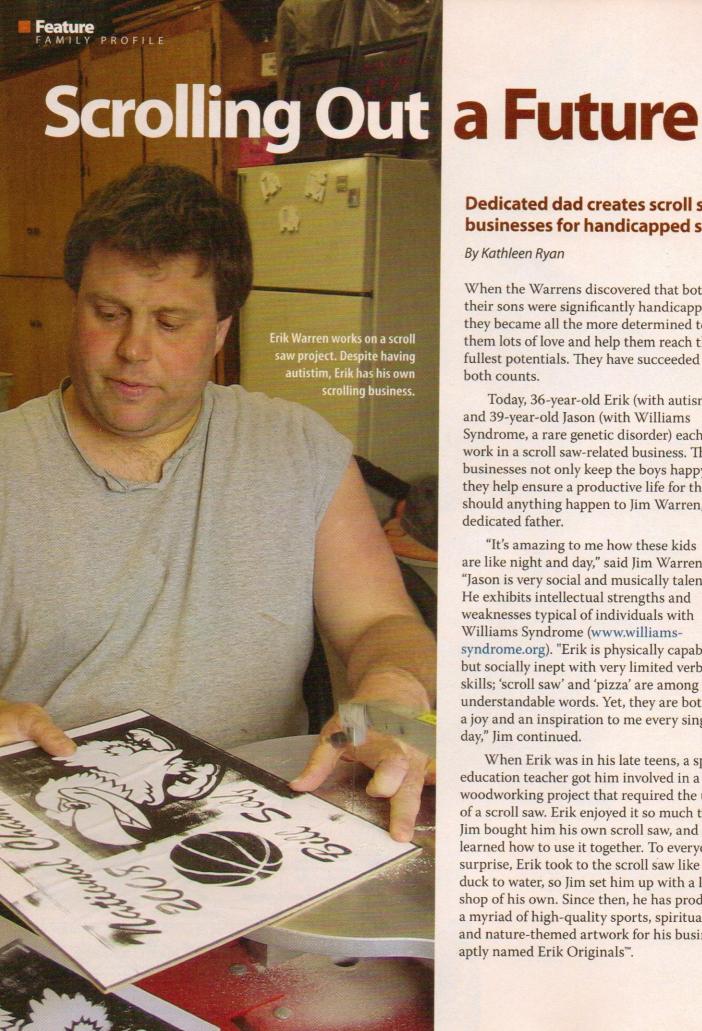
dot of hot-melt glue on each side.

You can also join pieces for stack cutting by driving brads or small nails into as many waste areas as you can. Be sure to cut off any overhanging nails



as close to the surface as you can; then sand them flush to avoid scratching or catching on the table.





#### Dedicated dad creates scroll saw businesses for handicapped sons

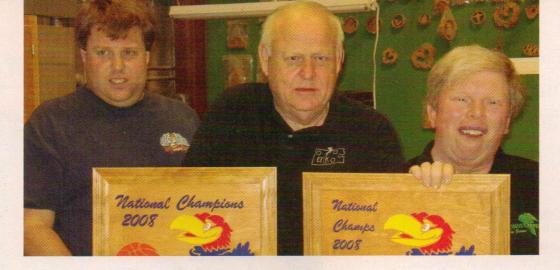
By Kathleen Ryan

When the Warrens discovered that both of their sons were significantly handicapped, they became all the more determined to give them lots of love and help them reach their fullest potentials. They have succeeded on both counts.

Today, 36-year-old Erik (with autism) and 39-year-old Jason (with Williams Syndrome, a rare genetic disorder) each work in a scroll saw-related business. These businesses not only keep the boys happy, but they help ensure a productive life for them, should anything happen to Jim Warren, their dedicated father.

"It's amazing to me how these kids are like night and day," said Jim Warren. "Jason is very social and musically talented." He exhibits intellectual strengths and weaknesses typical of individuals with Williams Syndrome (www.williamssyndrome.org). "Erik is physically capable, but socially inept with very limited verbal skills; 'scroll saw' and 'pizza' are among his understandable words. Yet, they are both a joy and an inspiration to me every single day," Jim continued.

When Erik was in his late teens, a special education teacher got him involved in a woodworking project that required the use of a scroll saw. Erik enjoyed it so much that Jim bought him his own scroll saw, and they learned how to use it together. To everyone's surprise, Erik took to the scroll saw like a duck to water, so Jim set him up with a little shop of his own. Since then, he has produced a myriad of high-quality sports, spiritual, and nature-themed artwork for his business. aptly named Erik Originals™.



Erik, left, Jim Warren, center, and Jason, right, display some of Erik's work.

"A lot of people ask me how I could let Erik be around dangerous equipment. But if there's any tool in woodworking that I feel is safe, it's the scroll saw," Jim said. "Erik nicked himself just once years ago and got really upset about it—it's never happened again."

All Erik Originals are hand cut by Erik before going on to the finishing crew. Erik uses a Hawk scroll saw with a #2 reversetooth blade. Most of his framed work is cut in ½"-thick Baltic birch plywood, although some of his work is cut in ¾"-thick aromatic cedar. In addition to his array of patterns, Erik also does some custom work.

"Erik is a visual learner. He rarely allows anyone to do anything for him—not even to get his coat for him. He's very coordinated, and physically strong and capable, with perfect vision, hearing, and smell. He can sniff out a Snickers bar no matter where I try to hide it," laughed Jim. "He's also very mechanically inclined and can do anything I ask him to do. But I've got to be sure to show him correctly the first time, because change is difficult for him. Once we got started on the scroll saw, I just kept giving him harder projects, and he excelled at them all."

The budding artist began selling his work 15 years ago through retailers that Jim was able to convince to display Erik's work. Now he also sells his work online through his website. Last year alone Erik sold well over 1,000 pieces.

According to his father, most people who see Erik's work love it and are impressed with the quality. Those admirers often have no idea that Erik has autism. For Erik, his unique gift is an effective way to help him deal with his compulsions.

"We hide wood from him, because if he sees it, he's got to make something with it—then there's no stopping him. He has been known to work up to 23 hours straight, but he has gotten much better at controlling that urge. He sets his own pace for what he

wants to do each day. Then anything he leaves to do for the next day, he'll carry home and take it to his bedroom with him, because he doesn't want anyone doing his work.

"Some people with autism benefit from sensory integration. I think that Erik gets his sensory integration through the scroll saw; that and his one to three long showers every day. It's still somewhat of a mystery to me what makes him tick."

An entrepreneur himself, Jim Warren currently owns an asphalt maintenance company in Hays, KS. Over the years, he has jump-started several other businesses.

"I've always been self-employed, so I could pick up and leave to deal with whatever needs the boys might have," Jim said. "So I was already familiar with the logistics of how to go about setting up businesses in which they could work."

Within the past year, Jim established a company for Jason to work in, called Wonderpaper by Jason™. It was born out of Erik's scroll-sawing business. After years of helping Erik glue patterns onto his wood pieces, Jim stumbled onto some large sheets of self-adhesive paper. He cut the paper to

"We hide wood from Erik, because if he sees it, he's got to make something with it."

# "Helping them to feel useful and productive is what it's all about."

size, put the sheets into a copy machine like regular paper, then just peeled off the back and applied it to the wood. It worked like a wonder—thus the name Wonderpaper. A single ad in *Scroll Saw Woodworking & Crafts Magazine* generated an international base of more than 200 customers for the new business.

"It took a long time to come up with something that would work for Jason, because Erik's needs were so demanding. But Jason is an angel and has always been so good about waiting," Jim mused. "The paper worked out great for Erik, and now Jason can help with a business too. Jason proudly weighs the sheets, puts them in the bags, and takes them to the post office. He tracks his sales on a world map.

"They're both hard workers," Jim added.
"They'll get up early each morning and can't wait
to get going and start doing something. Helping
them to feel useful and productive is what it's
all about."

Because Erik cannot be left unattended, Jim enlisted the help of personal assistants for Erik and Jason, to help with their day-to-day activities, including their respective businesses.

"There are four people who work with Jason and Erik who have been with us for years," Jim said. "They are all CPR and first-aid certified. They are our family. Through a trust agreement, two people have committed to help Erik and Jason for the rest of their lives, should I ever be unable to care for them. It took me a long time to feel that good about anyone."

Although no one can predict what lies ahead, Jim is very hopeful for the futures of his sons and the businesses. Whatever the future holds, Jim says one thing is certain—they're in it together.

"It's been challenging living with these kids, but at the same time it's been such a joy and very rewarding for me personally. All in all, I'd say it's been quite a ride!"

### **Gallery of Work from**



A plaque bearing the logo of the Fort Hays State University Tigers.



HORSE PORTRAIT is a pattern from Wooden Teddy Bear.

#### **Erik Originals™**





JESUS IN PRAYER was designed by Enzo Santomarco.



An original design commemorating Kansas University's 2008 basketball championship.



#### **Erik Originals™**

Erik Originals was created by Jim Warren to help develop the artistic talents of his son. Erik's artwork includes sports, spiritual, and nature designs. Visitors to his website can view the gallery of his work and watch a video

highlighting Erik's life, struggles, and accomplishments, as well as television news clips featuring Erik and his scroll saw work.

For more information on Erik Originals, call Jim Warren at 785-623-7470 or visit the website at www.erikoriginals.com.



#### Wonderpaper by Jason™

Wonderpaper by Jason is a company started by Jim Warren to help his son, Jason, with the goal of leading a productive life and earning a living. This self-sticking paper was initially designed for

use in the production of scroll saw artwork, but has many other applications as well. Jim said the company plans to expand its line by adding several new products, including a clear Wonderpaper. To learn more about Wonderpaper or to place an order, call 785-639-7470 or visit www.wonderpaperbyJason.com.

#### **Learning to Communicate**

Marla Staab, Clinical Coordinator in the Department of Communication Disorders at Fort Hays State University, has worked with Erik and Jason since they were toddlers. Marla explained that while individuals diagnosed with autism have difficulty expressing thoughts and ideas, it is not unusual for them to have exceptional talents and skills in music and art.

"His dad has worked hard to find a way for Erik to communicate," Marla said. "Erik is very perceptive. He knows what's going on. The scroll saw is a way for him to express himself and show his talents," she continued.

Families like the Warrens come to the Fort Hays State University Clinic because they want more for their children. But the families who come to the Clinic often give more than they receive. "Those two boys have taught me more about communication than any teacher or book," Marla said. She is thankful to have been invited along on their journey.

To learn more about autism or find local resources, visit www.autismspeaks.org.

Flying High

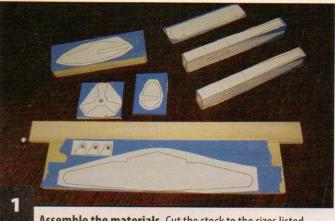
#### Sturdy toy airplane is easy to make

By Ron Forsyth

With spinning propellers and moving wheels, this toy plane is sure to delight future pilots. The best part is that you can cut, paint and assemble the P-38 Lightning airplane in a single afternoon.

I make a variety of toys and donate them to 50 local charities, so I'm always looking for quality toys that can be crafted quickly. I keep the paint scheme simple to speed the process, but you can easily personalize the plane. Invite children to participate by choosing the colors and applying the paint or adding decals from the hobby shop.





Assemble the materials. Cut the stock to the sizes listed in the materials list. Photocopy the patterns and cover the wood with blue painters' tape. Attach the patterns with a glue stick. Drill the holes for the propellers in the end of the engine booms, the landing gear, the propellers, and any required blade-entry holes.



Cut the pieces. Use extra care when cutting the engine booms; cut the holes for the wings first. Use compound-cutting techniques to cut the top of the boom. Tape the cut pieces back in place and cut the side profile. Be sure to mark the left and right engine booms; they are mirror images of each other.

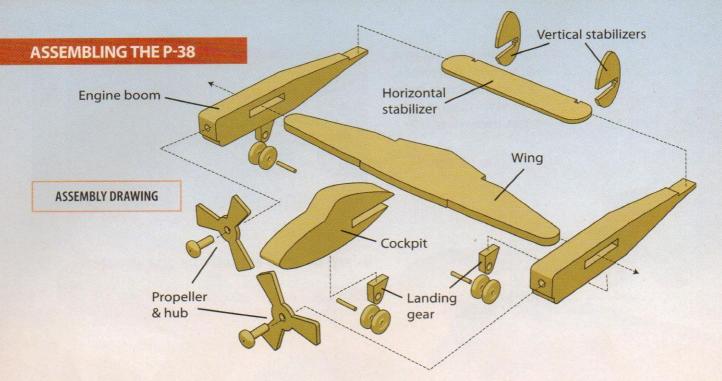




Round the pieces. Round the horizontal stabilizer with sandpaper to avoid weakening the tail. Position the other pieces on a non-slip carpet runner and round them with a laminate cutter with a ¼"-radius round-over bit. The tool's roller bearing will slip into the hole for the wing and produce a contour on the engine booms. This effect was not intentional, but it works well.



Paint the plane. Use masking tape to tape off the glass cockpit area. Paint the remainder of that piece, the engine booms, tail, rear stabilizers, landing gear, and propeller hubs silver. Paint the tires black. After the paint is fully dry, remove the tape, and mask off the area around the cockpit. Paint the cockpit glass blue. Paint the propellers a dull yellow. Leave the wing natural.



Use the assembly drawing as a guide. If you are unsure of your cutting, dry-fit the pieces together before painting in case any areas need sanding.

**Step 1:** Fit the cockpit and engine booms. Dry fit the pieces and adjust if necessary. With the engine booms on the wing, check the fit of the horizontal stabilizer. Make sure it lays across both of the engine booms properly.

**Step 2:** Assemble the landing gear. Glue the axle to one wheel. After the glue dries, slide the axle through the landing gear and glue on the other wheel. Make sure the wheels turn freely.

**Step 3:** Assemble the plane. Glue the engine booms to the wing. Slide the cockpit onto the wing and center it. The wing is flat in the front and tapers to a point on the back edge. The cockpit is aligned with the point. Glue the cockpit in place.

**Step 4:** Glue the landing gear in place. Make sure the plane will sit evenly on all three wheels. Position the landing gear on the engine booms close to the back edge of the wing to prevent the plane from tipping back on its tail.

**Step 5:** Attach the stabilizers. Glue the horizontal stabilizer in place across the back of the engine booms. Glue the vertical stabilizers in place over the horizontal stabilizer and the back of the engine booms.

**Step 6:** Attach the propellers. Feed the axle pegs through the propellers. Add a bit of glue to the tips of the axle pegs and push the axle pegs into the engine booms. Make sure the propellers still spin freely.

**Step 7: Apply a clear protective finish.** Use polyacrylic clear finish or your finish of choice.

#### Materials:

- 2 each ¾" x 1" x 7½" pine or wood of choice (engine booms)
- 34" x 15%" x 5" pine or wood of choice (cockpit)
- 1/4" x 21/2" x 101/2" poplar or wood of choice (wings)
- 2 each 1/8" x 21/2" x 21/2" plywood or wood of choice (propellers)
- 2 each 1/8" x 11/4" x 2" plywood or wood of choice (vertical stabilizers)
- 1/8" x 11/4" x 55/8" plywood or wood of choice (horizontal stabilizer)
- 3 each ¼" x ¾" x ¾" plywood or wood of choice (landing gear)
- 3 each ¾"-diameter wooden wheels
- Blue painters' tape

#### **Materials** & Tools

- 2 each ¼"-diameter axle pegs (propeller hubs)
- · Glue stick
- Wooden dowel: match diameter to the axle hole in the wheels.
- · Assorted grits of sandpaper
- Wood glue
- Acrylic paint: blue, silver, and dull yellow
- · Polyacrylic clear finish

#### Tools:

- #5 reverse-tooth blades or blades of choice
- Laminate trimmer or router with 1/4"-radius round-over bit
- · Drill with assorted drill bits
- Paintbrushes



Patterns for **FLYING HIGH** are on the pattern pullout section.

Ron Forsyth of West Linn, OR, is a retired widower. His 9-year-oldgrandson is the product tester for all the toys he produces. Fantasy Dragon

Vibrant colors breathe life into this magical beast

By Sue Chrestensen and Toni Burghout

This dramatic-looking dragon can be as dark or as colorful as you want. We named this piece ZEPAUL and gave him a bright, colorful look. If you use dark browns and greys, it becomes Smog, from the epic novel The Hobbit. Different shades of blue change the beast into Saphira, from the recent Eragon book and movie. For a different approach, use various species of wood to bring the dragon to life with intarsia techniques.

For ZEPAUL, we combined several different coloring mediums—leather dye, acrylic paint, and nail polish-to create the unique look. The horns are painted with white acrylic paint and shaded with light blue. The body is red leather dye topped with yellow to give it more depth and dimension. The chest is the opposite—yellow dye with a touch of red quickly swiped over each piece.

The wings are colored with navy blue, purple, and red leather dyes. Apply the dark base color, sand it a bit, then apply the lighter color. This shading only works if you go from dark to light. The crests are colored with green leather dye topped with burgundy nail polish. The shiny, wet look of the eye is created with

black nail polish.

Pattern for the FANTASY **DRAGON** is on the pattern pullout section.





Sue Chrestensen lives in Grass Valley, CA. Toni Burghout is from Orillia, ON, Canada. See more of their designs online at www.chrestensenburahoutdesians.com.

burgundy, black

Wood glue

paint



#### Layered inlay coasters made with angled cuts

By Gary MacKay

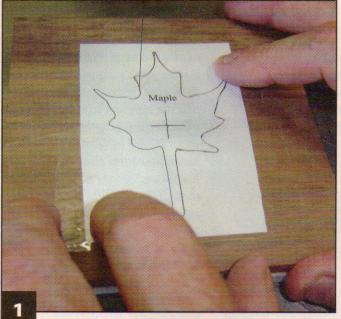
The beauty of these attractive inlay coasters is that each one requires only three cuts. You can create an entire set in an afternoon. They make great gifts or craft show items.

Living near the woods, I have raked my share of leaves in the fall. I was surprised to find that I could identify only four out of twelve common hardwoods by looking at the leaves. So I designed these coasters to show off the leaves of some of the more common North American hardwoods.

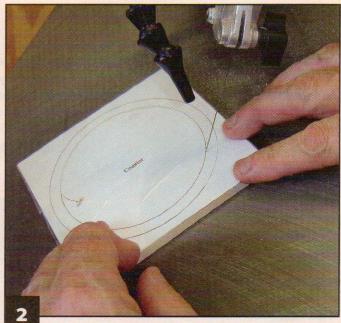
The technique is easy and the simplicity of the project makes the coasters extremely versatile. Use stains or dyes to add vibrant fall colors to the leaves or choose alternate designs such as sports logos or a holiday theme for personalized gifts.

The coasters are cut in two separate layers. The bottom layer contains the inlay design. The first cut on the top layer produces the inside rim, the second cut is made with the bottom layer stacked underneath to produce a smooth angled perimeter. The perimeter angle can be cut to slope in or out.

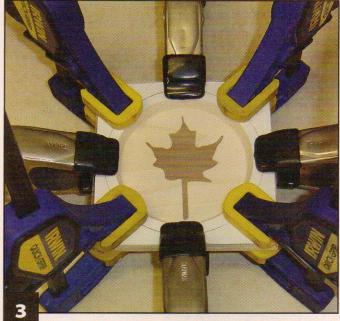
Make several copies of the coaster, test inlay, and leaf patterns. Use double-sided tape to attach the inlay stock to the coaster stock. Draw a line from corner to corner on the inlay stock to determine the center of the wood. Stick a pin through the center of the leaf pattern. Apply spray adhesive to the back of the pattern and use the pin to position the pattern in the center of the inlay stock. Cover the pattern with clear packaging tape to lubricate the blade.



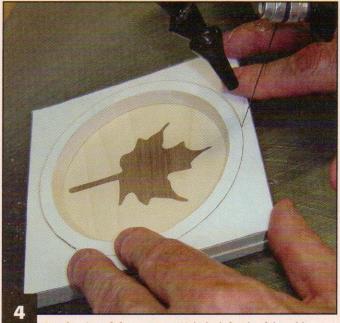
Cut and assemble the inlay design. Use a #68 bit to drill a blade-entry hole on the edge of the pattern. With the right side of the table tilted down to the correct angle (see sidebar), cut counter-clockwise around the pattern with a #2/0 blade. Glue the inlay into the coaster bottom. Sand the inlay smooth.



Cut the inside of the rim. Adhere a coaster pattern to the rim stock. Drill a 1/8"-diameter blade-entry hole where indicated on the pattern. Tilt the left side of the table down 30°, and cut counter-clockwise around the inside of the rim with a #5 reversetooth blade. Leave the table tilted down 30°.



Glue the rim onto the coaster bottom. Apply a thin layer of wood glue to the bottom of the rim. Center the rim around the leaf inlay and clamp it in place. Use an awl or flat-bladed screwdriver to remove any glue squeeze-out from inside the rim. Allow the glue to dry.



**Cut the rim of the coaster.** With the left side of the table tilted down 30°, cut counter-clockwise around the perimeter to produce a cone-shaped rim, or cut clockwise to produce a bowl-shaped rim. Sand and round the coaster. Apply several coats of interior/exterior spray varnish to protect the wood.

#### SANDING THIN STOCK

Attach 1/8"-thick cleats to a piece of scrap wood to hold the 1/4"-thick stock when you smooth the inlay on a belt sander.



# Coaster

## Determining the table angle

Join the two pieces of test inlay stock together with double-sided tape. Transfer the test inlay pattern to the stack. Tilt the right side of the saw table down 1°. Drill a blade-entry hole on the pattern line with a #68 drill bit. Cut counter-clockwise around the pattern with a #2/0 reversetooth blade. Separate the pieces and test the fit of the inlay. If the top piece fits too loosely into the bottom piece, set your table angle to 1½° and retest. Continue adjusting the table angle until the inlay fits flush with the surrounding wood.



Inlay test pattern

#### Materials:

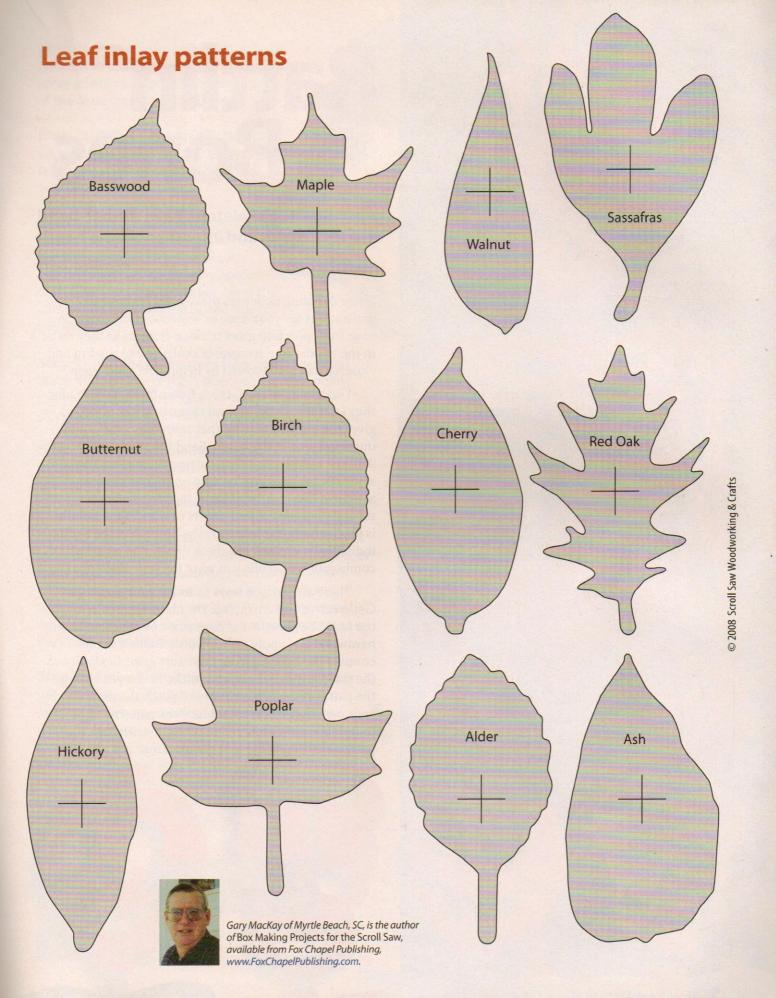
#### **Materials** & Tools

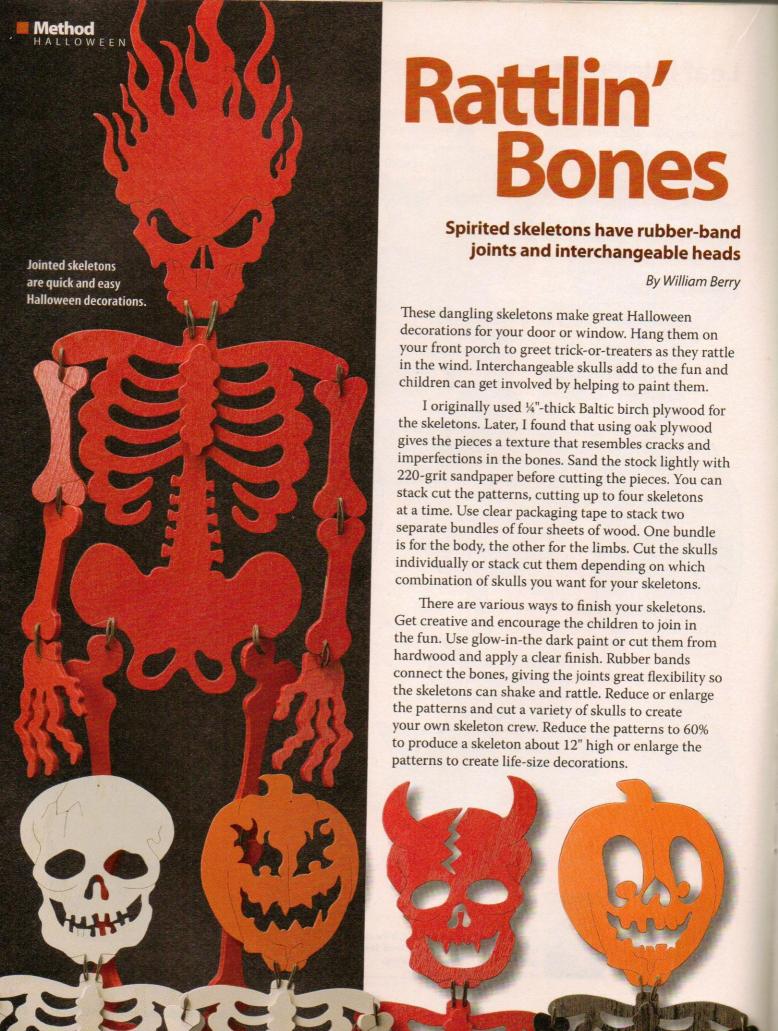
#### • 2 each ¼" x 1½" x 1½" scrap wood (test inlay)

- 2 each 1/4" x 41/2" x 41/2" poplar (coaster rim and bottom)
- 1/4" x 41/2" x 41/2" walnut (leaf inlay)
- · Wood glue
- · Temporary-bond spray adhesive
- Double-sided tape
- Clear packaging tape (optional)
- Assorted grits of sandpaper
- Clear finish of choice (I use interior/ exterior spray lacquer)

#### Tools:

- #5 and #2/0 reverse-tooth scroll saw blades
- Drill with 1/8"-diameter and #68 (.031") drill bits
- Belt sander (to flatten inlay)
- Pin (for pattern placement)
- 8 each 2" spring-type or equivalent
- Toothpick, awl or flat-blade screwdriver (to clean up glue squeeze out)





Step 1: Prepare the blanks. Attach the patterns to the stacks using temporary-bond spray adhesive. Apply packaging tape on top of the patterns to reduce burning.

Step 2: Drill the holes. Drill the rubber band anchor points and the blade-entry holes. Use scrap wood to prevent tearout on the bottom sheet.

Step 3 Cut the frets in the body. Cut the hip and rib openings. All the rib openings can be cut in two passes, using one blade-entry hole on each side. The breastbone will cover the connecting lines running up the sides of the spine.

Step 4: Cut the perimeter of the body. Insert the blade through one of the rubber band anchor points. Cut the slot that leads to the perimeter, then follow along to the next slot. Work your way around the body.

**Step 5: Cut the remaining pieces.** Use the same technique to cut the skull and remaining bones. Then run a fine sanding sponge across the edges to remove any burrs. Glue the breastbone onto the body.

Step 6: Paint the pieces. Position all of the parts on a piece of cardboard. Leave at least 1" between the pieces. Spray paint the pieces, following the manufacturer's instructions. Spray the pieces at an angle from all directions, allow them to dry, then flip them over and repeat the process. This helps you get good coverage on the inside and outside edges.

Step 7: Assemble the pieces. On a full-size skeleton, use two rubber bands for each joint. Run a piece of sandpaper through the slot to remove any burrs or paint. Stretch each rubber band before you pull it through the slot to the anchor point. Attach the limbs and the head. If you alter the size of the pattern, you may need to experiment with the size of the rubber bands. Thread fishing line through the hole at the top of the skull and tie it in a loop.



Patterns for RATTLIN' **BONES** are on the pattern pullout section.

William (Bob) Berry's scrolling business is based in Saline, MI. Visit his website at: www.taurpiocreations.com.

#### Materials:

- Temporary-bond spray adhesive
- 3 each 1/4" x 71/2" x 9" Baltic birch plywood or oak plywood
- Clear packaging tape
- 220-grit sandpaper
- Assorted enamel spray paints
- Small rubber bands (available in the hair care department)

#### · Sanding sponge

**Materi** 

- Nylon fishing line

#### Tools:

- #5 reverse-tooth blades or blades of choice
- · Pad sander or sander of choice
- Drill with 1/16"-diameter drill bit

# Sculpted Pumpkin Box

Angled pieces shaped with intarsia techniques make a clever segmented box

By Robert Ardizzoni

I was inspired to create this box during a pumpkinpicking excursion with my grandson. I knew that by using segmentation techniques and my experience with shaping intarsia, I could create a box resembling this classic icon of fall. Several prototypes ended up in the kindling pile, but eventually I determined the correct angles and techniques to successfully complete the project.

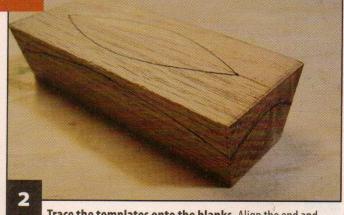
Begin by cutting the materials to the sizes listed in the materials list. Glue a photocopy of the templates onto a piece of card stock or thin cardboard and cut them out with scissors or a hobby knife. For the top template of the side segments, cut the rectangle first, then cut out the middle oval so you can trace inside it. Create a layout pattern by

using a compass to make two circles. The largest circle is 6%" diameter and the smaller circle is centered inside the first and should be 4%" diameter. Use a straight edge to divide the circles into 12 pie-shaped sections.

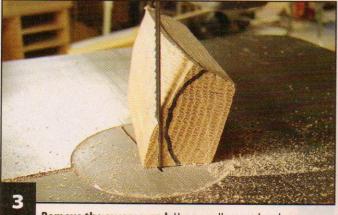
#### **PUMPKIN BOX: SIDE SEGMENTS**



Cut the side segments. Set the table saw to cut at a 15° angle. Cut the side of the 1" x 2" x 49" strip at this angle. Set the rip fence on the saw so the finished width of the stock will be 134" wide on top. Cut the opposite side at the same angle. Cut the strip into twelve 4" keystone-shaped blocks. The strip is slightly oversized to account for the saw kerf.

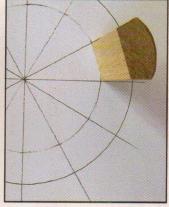


Trace the templates onto the blanks. Align the end and side templates with the flat bottom edges of the block and trace the profiles onto to the stock. Align the top template on the top of the block and trace inside the oval opening. Repeat for all 12 tapered segments.



Remove the excess wood. Use a scroll saw or band saw to remove some of the extra wood around the templates. I shift the pieces in various directions to remove as much excess wood as possible. Any wood you remove with the saw saves time sanding.

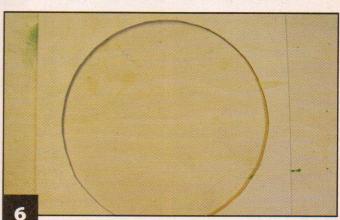




**Shape the pieces.** Sand up to the lines using your sander of choice. I use a belt sander. Place the pieces on the layout pattern and adjust the fit as necessary. Apply a coat of lacquer to the front of the pieces. Try not to get any lacquer on the sides of the pieces.



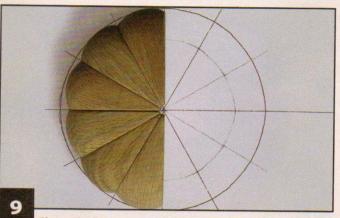
Glue the side segments together into pairs. If you did get lacquer on the sides, gently sand it off to ensure a strong glue bond. The lacquer on the front of the pieces will allow you to easily clean up any glue squeeze out. Apply wood glue to one side of a segment and position it alongside another segment. Clamp them together until the glue dries.



Cut the circular wooden clamps. These clamps are used to apply even pressure on all of the segments. Stack two pieces of Baltic birch plywood together with masking tape. Use a compass to draw a 6½"-diameter circle in the center of the wood. Drill a blade-entry hole and cut out the circle to create the clamps. Keep the center cut outs; they are used for the lid liner and bottom.



Glue up the pairs of side segments. Dry fit the pairs together and adjust the fit as needed. Apply wood glue to the sides of the pairs and position them next to each other on the layout pattern. Push one of the circular wooden clamps (created in step 6) as far onto the sides as possible. Flip it over and push the other circular wooden clamp onto the other end.



Shape the lid segments. Sand the segments smooth and create a rounded contour. Sand 1/8" off the pointed end to create a gap in the center of the lid. This gap will make it easier to fit the segments together. Position the shaped pieces on the layout pattern. Check the fit and adjust as needed. Apply lacquer to the top, then glue the lid segments together.





Assemble the box bottom. Cut a ¼"-wide by ½"-deep rabbet on the inside ring of bottom of the box. Dry fit the bottom, adjust the fit as needed, and glue it in place. Sand the bottom flush with the box sides. The plywood bottom is a good place to sign your work.

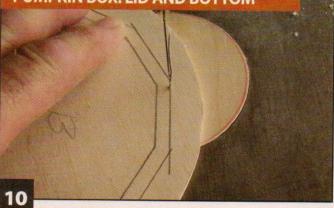
#### **PUMPKIN BOX: TOP SEGMENTS**



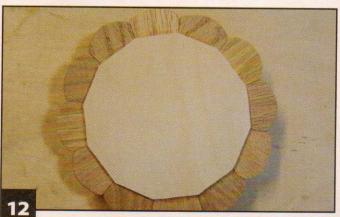


Cut the lid segments. Transfer the top lid segment pattern to twelve of the 1" x 2" x 4" blanks. To ensure an accurate angle, cut outside the straight lines and sand up to them with a disc sander or your sander of choice. Trace the lid segment side profile onto each blank and cut off the waste section. The more wood you cut off with the saw, the less you will need to sand off.

#### **PUMPKIN BOX: LID AND BOTTOM**



Cut the lid liner and bottom. Center a circular piece of plywood scrap from step 6 under the sides of the box. Trace the inside contour of the box sides. Cut along the traced line to create the lid liner. Trace the lid liner onto the second circle and draw a line ¼" outside the traced line. Cut along the outermost line to create the box bottom.



Assemble the lid. Make sure the lid liner fits inside the box sides. Apply glue to one side of the lid liner and center it on the lid, aligning the flat sections with the lid segments. Apply weight to the lid liner until the glue has dried. Drill a 5/16"-diameter hole for the handle through the center of the lid, but not through the liner.



Cut and shape the stem. Fold the stem pattern on the dotted line and attach it to the last blank, aligning the fold with the corner. Trim off the waste. Drill a 5/16"-diameter by 1/4"-deep hole for the dowel. Cut one side, tape the waste in place, then cut the other side. Sand the stem to shape. Glue the dowel in place.



Finish the box. Flock the inside of the box and the lid liner. Follow the manufacturer's instructions for best results. Apply lacquer to the stem, allow it to dry, then glue the stem in place. Put the lid on the box and apply four to five coats of lacquer, sanding lightly between each coat with 320-grit sandpaper.

#### Materials:

- 1" x 2" x 49" oak
- 13 each 1" x 2" x 4" oak
- 3 each 1/8" x 12" x 12"Baltic birch plywood (clamps, lid liner, and box bottom)
- · Titebond III glue
- 5/16" diameter x 1" dowel
- Flocking kit of choice (I use Suede Tex)
- Gloss lacquer spray

- Assorted grits of sandpaper up to 320 grit
- · Glue stick

#### Tools:

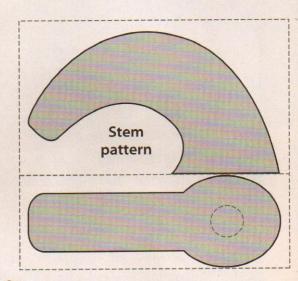
- · Table saw
- Compass with a 3¼"radius capacity
- #5 skip-tooth blades or blades of choice
- · Sander of choice

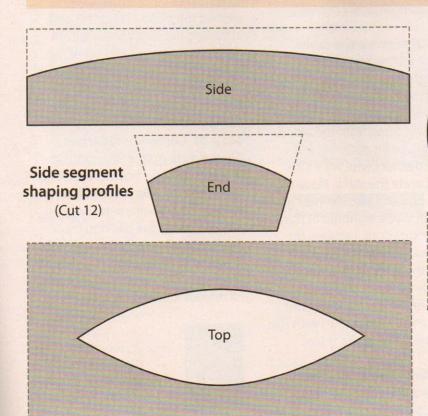
#### **Materials** & Tools

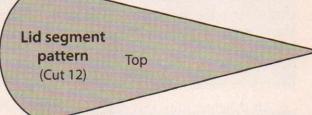
- Assorted clamps
- Drill with 5/16"-diameter bit
- · Scissors or hobby knife
- Router table with ¼"radius rabbet bit

#### SPECIAL SOURCES:

Suede Tex is available from Rockler, 800-279-4441, www.rockler.com







Side Lid segment shaping profile



Robert Ardizzoni, of Holland, MA, discovered intarsia when he picked up an issue of SSW&C. A long-time woodworker, he fell in love with intarsia and started designing projects for his six children and 14 grandchildren.



## **Howling Wolf Trivet**



You can master inlay techniques with this simple design

By Theresa & Emily Ekdom

Inlay and relief-cutting techniques can be intimidating, especially for a beginner, but this design makes it easy to learn the basics. Once you know the technique, experiment with alternate uses. Use the design to create a box lid or reduce the pattern for use as a magnet.

My daughter drew this design when she was 15 for a 5" x 5" wooden quilt square. I fell in love with the design and enlarged it for use as a trivet or plaque.

Pay attention to the color and grain direction of the wood. I use red cedar with white streaks to simulate clouds in the evening sky. The grain lines in the cherry give the look of wind-blown terrain. Make three copies of the pattern to use when cutting the project.

#### **Step 1:** Determine the table

angle. Make a few test cuts to find the right angle for cutting the inlays. Tilt the right side of the saw table down 31/2°. Stack together two pieces of scrap from the wood you plan to use for the inlay. Cut a circle counterclockwise with a #3 blade. Separate the stack. Place the top piece of wood into the hole in the bottom piece. It should fit flush. If the inlay sticks out, increase the angle of the table tilt. If the inlay sinks into the hole, reduce the angle of the table tilt. Continue to adjust the angle of the table and cut test inlays until you are satisfied with the fit. Note the angle of the table.

**Step 2: Inlay the moon.** Use hot glue to stack together the red cedar and the aspen. Attach a copy of the

pattern to the aspen. Drill a bladeentry hole where indicated on the pattern. This area will be removed when the horizon is cut, so the size of the hole is not important. Cut counterclockwise around the moon. Separate the stack, remove the pattern, and glue the moon into the sky. Sand the back of the piece flat.

**Step 3:** Cut the horizon. Return the table to square and attach the cherry to the top of the aspen/red cedar with hot glue. Attach a copy of the pattern to the cherry. Cut along the horizon line, remove the pattern, and edge glue the cherry to the aspen and red cedar.

Step 4: Cut the wolf. Reset the table to the proper angle determined in step 1. Use hot glue to stack the piece of walnut on top of the background stock created in step 3. Adhere the pattern to the walnut. Drill a blade-entry hole at the top of the hind foot and in the middle of the eye line with a 1/32"-diameter bit. Start at the hind foot and cut counterclockwise around the perimeter of the wolf, including the detail lines. Return the table to square and cut along the eye line. Glue the wolf into the background. Sand the front and back of the inlay.

#### **Step 5:** Complete the trivet.

Glue and clamp the inlay onto a ½"-thick backing board. When dry, sand the edges to ensure a smooth surface. Drill ¾"-diameter holes in each corner of the backing piece. Be careful not to drill through into the inlay stock. Glue the hardwood plugs in place. Apply a coat of tung oil or your finish of choice.



Theresa Ekdom lives in Roscommon, MI. She can be reached at ekdomtd@voyager.net.



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#### Materials:

- 1/4" x 7" x 7" red cedar or red wood of choice (sky)
- ¼"x 7" x 7" aspen or white wood of choice (moon)
- ¼" x 7" x 7" cherry or medium brown wood of choice (ground)
- ¼" x 7" x 7" walnut or dark wood of choice (wolf)
- ½" x 7" x 7" pine (backing board)

#### (Note: Advanced scrollers can use smaller pieces of wood by carefully alianina the patterns

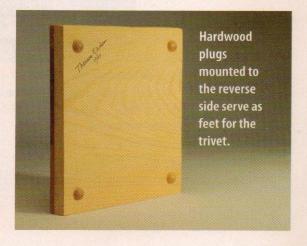
carefully aligning the patterns and the wood when creating the stacks)

- 4 each hardwood plugs with 3/8"-diameter shaft
- Wood glue
- · Tung oil or finish of choice
- Assorted grits of sandpaper

#### **Materials** & Tools

#### Tools:

- #3 reverse-tooth blades or blades of choice
- Drill with assorted drill bits
- Hot glue gun with glue sticks
- · Clamps of choice



## Hunter's Pride Display Shelf

Majestic buck design is perfect for a trophy room or hunting cabin

By John A. Nelson Cut by Michael Jamgochian

This fretwork shelf combines a masculine theme with the attractive, flowing lines of traditional fretwork. The easy-to-assemble project produces a functional shelf to display memorabilia or a prized hunting photo.

This shelf was cut from Baltic birch plywood and finished with an elm stain. You can stack cut the individual pieces to produce a perfectly matched set. After cutting the fretwork, remove any rough areas with sandpaper. Stain the wood if desired and use your glue of choice to assemble the shelf. I use cyanoacrylate (CA) glue and apply a couple coats of spray lacquer to disguise any glue that squeezes out.

Patterns for the **HUNTER'S PRIDE DISPLAY SHELF** are on the pattern pullout.

#### Materials:

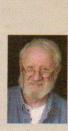
- ¼" x 10½" x 12¼" hardwood or wood of choice (back)
- ¼" x 7" x 13" hardwood or wood of choice (shelf)
- ¼" x 6" x 10½" hardwood or wood of choice (shelf support)

#### Materials & Tools

- Stain (optional)Cvanoacrylate
- Cyanoacrylate (CA) glue
- Assorted grits of sandpaper
- · Finish of choice

#### Tools:

- #3 reverse-tooth blades or blades of choice
- Drill with 1/16"diameter drill bit
- Brushes to apply finish (optional)



John A. Nelson is the author of Fox Chapel's popular Scroll Saw Workbook, available at www.foxchapelpublishing.com.



Ribbons and Bows Box



Easy compound-cut bow adds elegance to this custom gift box

By Carole Rothman

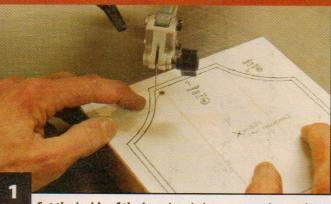
Decked out with ribbons and bows, this stunning box adds a personal touch to the presentation of a special gift. It can also be used as a jewelry or trinket box, or as a candy dish.

I combined my knowledge of scrolling with my experience making sugar paste bows for cakes. The result is a gift box with a bow that looks so real, people touch it to be sure it's really made of wood.

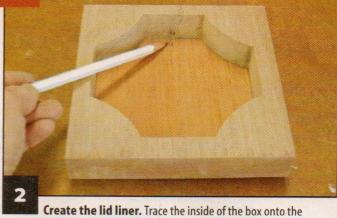
The project consists of two parts: a lidded box embellished with a ribbon, and a compound-cut bow. Careful alignment of the parts and thorough sanding are the keys to a beautiful project.

You can use a solid color wood for the ribbons, but the laminated blanks used to create the striped effect add to the charm of this project. The blanks are made from cherry and purpleheart glued together in an alternating pattern. To create the blanks for the flat ribbons and the tails, glue and clamp two ¼"-thick strips of purpleheart on either side of a ¼"-thick strip of cherry. The blank for the ribbon loops is made the same way, but additional ½"-thick strips of cherry are glued on the outside edges to get the full 1" width (see the materials list for full dimensions).

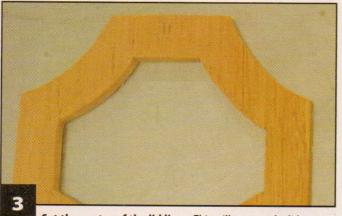
#### **RIBBON BOX: CREATING THE BOX**



Cut the inside of the box. Attach the pattern to the wood with spray adhesive and cover the pattern with clear packaging tape. Drill a 1/8"-diameter blade-entry hole inside the box and cut along the inner line with a #9 reverse-tooth blade. Remove the fuzzies on the bottom with sandpaper. Sand the sides smooth. Do not remove the pattern.



Create the lid liner. Trace the inside of the box onto the lid-liner stock. Make a small pencil mark on the inside of the box and on the liner stock for easier alignment. Cut along the traced line with a #3 reverse-tooth blade. Sand the edges smooth so that the liner fits just inside the box. The liner keeps the lid aligned properly so the ribbons look realistic.



**Cut the center of the lid liner.** This will prevent the lid from warping. Draw a line ¾" in from the outside edge of the lid liner. Drill a blade-entry hole and cut out the center of the lid liner. Sand the lid liner smooth.

#### TIPS

#### **SHARP INSIDE CORNERS**

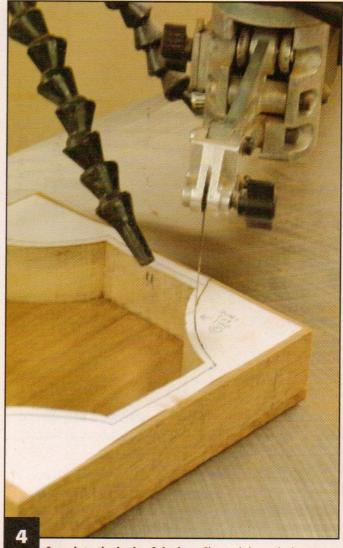
Cutting a clean corner with a large blade and thick wood is a four-step process. Cut to each corner, back off, then cut a gentle curve to the next side. Go back and cut into the corner from the other direction after the interior waste has been removed.

#### REDUCE YOUR CUTTING

Use the blade-entry hole to form the inside curve of the ribbon loop. This reduces the need to make sharp turns in the thick laminated stock.

#### **PRECISE GLUING**

Use a glue syringe so you can put the glue exactly where you want it when gluing the loops and tails. I use Weldbond glue because it sets up quickly and dries clear.



**Complete the body of the box.** Glue and clamp the box sides to the box bottom stock. Align the grain of the box sides and the box bottom. Cut along the outer line of the box with a #12 reverse-tooth blade. Sand the outside of the box smooth.



Cut the lid. Trace the outside of the box on the lid stock.

Align the grain of the box with the lid. Make a pencil mark on the lid and a corresponding mark on the box so you can realign them later. Cut along the outside of the lid with a #3 reverse-tooth blade. Realign the lid and box, and attach the lid to the box with masking tape. Sand the sides of the lid flush with the box sides.



Glue the lid liner to the lid. Center the liner on the lid. Invert the box on the lid and align the marks made earlier. Adjust the box until the edges are flush. Lift the box carefully, leaving the liner in position. Trace around the liner with a pencil. Align the liner on the line, and glue and clamp it in place. Let the glue dry, and sand both using progressively finer sandpaper up to 320-grit.

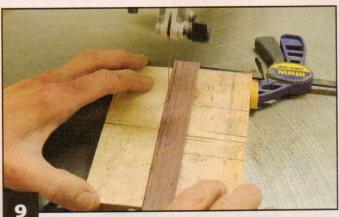
#### RIBBON BOX: CUTTING THE RIBBONS AND BOWS



Cut the open loops. Fold the six loop patterns along the dotted line and attach them to the laminated blank, aligning the fold with the corner of the blank. Drill blade-entry holes at the curve of the loop with a 3/8"-diameter brad-point bit. Cut the inside and the outside of the loops, starting at the bottom, with a #12 blade. Remove the waste, but leave the loop in place.



wood blocks just above the ends of the curved cutting lines on the first loop. Clamp the blocks together to hold the loop in place while you cut. Cut along each side, starting at the bottom point. Loosen the clamps and remove the loop. Cut along the top line of the loop face to clear the waste. Cut and sand the remaining loops.



Cut the flat ribbons. Use scrap wood to clamp the stock for easier handling. Cut a 1/16"-thick strip from the laminated stock and sand the blank smooth. Cut three more strips using the same process. Sand each strip smooth. If you are not comfortable sanding the strips, wait until you glue them in place in step 11.





Cut the tails. Attach the tails pattern to the laminated blank. Cut the sides of the tails using support blocks and clamps. Tape the tails and waste back together with clear tape, secure with scrap blocks and clamps, and cut the face of the tails. Sand the pieces smooth and taper the edges for a realistic look.

#### **RIBBON BOX: ASSEMBLY AND FINISHING**



Attach the flat top ribbons. Mark the center of each flat side on the lid and box. Cut a flat ribbon 1/8" longer than the width of the lid, with a 45° angle on each end. Position the ribbon on the centerline and measure from the ribbon to the box edge on the other centerline. Cut two more strips, each 1/16" longer than this measurement, with a 45° angle on one end. Glue the ribbons on the lines, angled-side down. The ribbons hang 1/16" over the edges.



Attach the four side ribbons. Cut the side ribbons about 1" longer than the height of the box and lid. Cut one end of each at a 45° angle. Position the angled end against the angled end of the top ribbon. Mark the bottom of the lid and the bottom of the box. Cut each ribbon on the lines and glue the pieces to the lid and the box side. After the glue dries, place the lid on the box and sand the ribbons smooth. Round the top and bottom edges of the ribbons.



Attach the tails to the lid. Dry fit the tails on the lid and adjust the length and fit of the pointed end with sandpaper. Apply glue to the pointed ends and position them on the lid. Prop the ends up with blocks of foam or wood until the glue dries. Dry fit five loops in a ring around the intersection of the top ribbons. Sand the sides of the loops to make them fit tightly together.

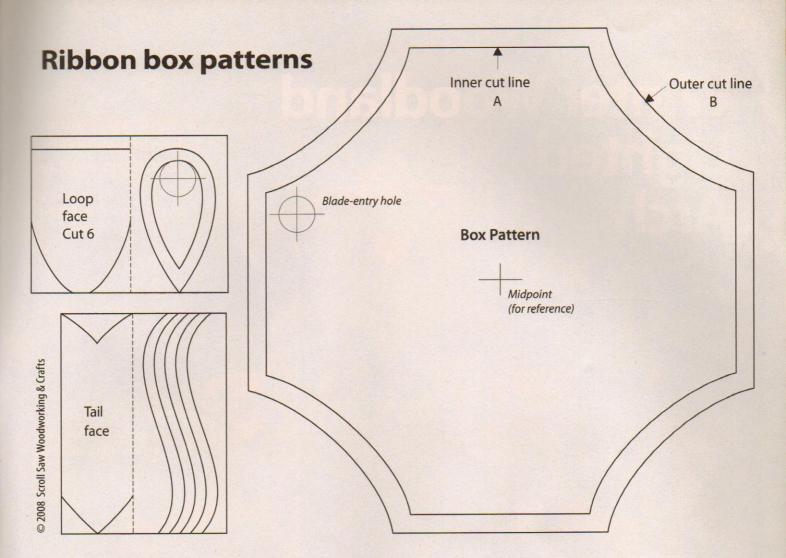


Attach the loops. Glue the loops in place. Sand the point of the remaining center loop to shorten and flatten it. Glue it in place in the center of the ring of loops. Carefully rub the entire box down with 0000 steel wool to remove any remaining fuzz or scratches. Then apply several coats of spray shellac or your finish of choice. A spray finish is easiest to apply because of the ribbons.

#### **Variations**

Use the same lamination series for the loops and ribbons or use a solid color for both. You can cut the flat ribbons very thin and use a butt joint where the top meets the sides of the box instead of a miter joint.





#### Materials:

- Temporary-bond spray adhesive
- · Wood glue (I use Weldbond)
- Plastic glue syringe (precise glue placement)
- Clear packing tape
- Assorted grits of sandpaper up to 320 grit
- Spray shellac (gloss) or finish of choice
- 0000 steel wool

#### BOX:

- ¾" to 1¼" x 6" x 6" mahogany or walnut (box sides)
- 2 each 1/4" x 6" x 6" mahogany or walnut (bottom and lid)
- ¼" x 5½" x 5½" Baltic birch plywood or wood of choice (lid liner)

LOOPS: 1" x 1" x 10½" laminated blank made up of strips of:

- 1/4"-thick cherry
- 2 each 1/4"-thick purpleheart
- 2 each 1/8"-thick cherry

RIBBONS: 3/4" x 1" x 6" laminated blank made up of strips of:

- 1/4"-thick cherry
- · 2 each 1/4"-thick purpleheart

TAILS: 3/4" x 1" x 21/2" laminated blank made up of strips of:

- 1/4"-thick cherry
- 2 each 1/4"-thick purpleheart

#### **Materials** & Tools

#### Tools:

- #3, #9, and #12 reverse-tooth blades or blades of choice
- · Drill
- 1/8"-diameter drill bit
- 3/8"-diameter brad-point drill bit
- Vertical and spindle sanders, or sanding blocks
- Support blocks (clamping)
- 2 each 6" clamps (compound cutting, thin ribbons)
- · Clamps for gluing box and lid
- Scraps of foam or wood (to support tails while glue dries)

#### **SPECIAL SOURCES:**

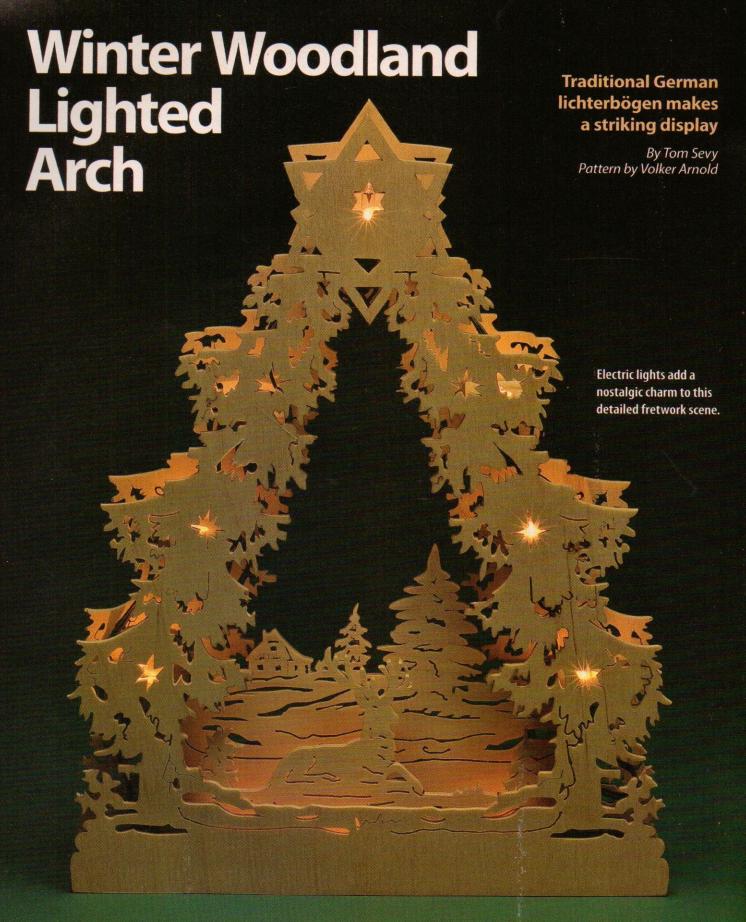
Flying Dutchman blades: Mike's Workshop, 605-582-6732, www.mikesworkshop.com

Weldbond glue and hardwoods of many varieties and thicknesses: Sloan's Woodshop, www.sloanswoodshop.com, 1-888-615-9663



Carole Rothman of Somers, NY, is a retired psychologist and college professor. She is also an awardwinning cake decorator.





Get a head start on the Christmas season with this charming layered display. Twinkling lights and rolling, snow-covered hills set the tone for this lighted arch, which is modeled after traditional German lichterböegen.

The size of the project can easily be adjusted to suit your taste. If you enlarge the pattern, use ¼"- instead of ½"-thick wood. Remember to enlarge the spacers in proportion with the rest of the project. The slots for the interior scenes must be adjusted as well. The diameter of the holes for the electric lights remains the same.



Step 1: Cut the fretwork. Use masking tape to attach the stock for two arches together. Attach the pattern to the stack with spray adhesive. Drill blade-entry holes and cut the fretwork. Cut the large center area last. The bottom of the arches must be perfectly flat; cut outside of the line and sand up to it if necessary.

#### Step 2: Cut the spacers.

Determine the size of the light sockets. Drill holes the same diameter as the light sockets in the spacers. Then cut the spacers. You can stack cut several spacers at once. Only the bottom three spacers need the slots for the inserts. Make sure all of the spacers are the same size.

**Step 3:** Glue the spacers to the back arch. Use cyanoacrylate (CA) glue. Align the spacers on the bottom flush with the bottom of the arch. Make sure the slots face

the arch. Make sure the slots face the top of the arch to accommodate the deer and village inserts. Use the dotted lines on the pattern as a guide for spacer placement.

#### **Step 4:** Assemble the project.

Install the inserts before attaching the second arch. The village insert fits in the back slot and the deer insert fits into the front slot. A drop of CA glue will lock the inserts in place. Add a bit of CA glue to the end of all of the spacers, place the front arch in position, and hold it in place until the glue dries.

#### Step 5: Apply a finish.

Traditionally, lichterböegen were left unfinished. You can stain the inserts for additional contrast or apply an oil finish to the entire project. I seal everything with spray lacquer, which hides any CA glue that squeezed out of the joints.

Step 6: Install the lights. Thread the lights, beginning at the bottom, following around the arch, and ending back where you started. After the lights are in position, lock them in place with hot glue. Secure any hanging wires to the spacers with a dab of hot glue to keep them tucked up out of sight. Do not get glue on the lights, and make sure the lights do not touch any wood.

#### Materials:

- 2 each 1/8" x 91/4" x 12" Baltic birch plywood (arches)
- 1/8" x 3" x 61/4" Baltic birch plywood (deer insert)
- 1/8" x 5" x 61/2" Baltic birch plywood (village insert)
- 10 each ¼" x 1" x 1½" Baltic birch plywood (spacers)
- Set of 10 mini-lights (battery or electric)
- Glue of choice (I use cyanoacrylate (CA) glue)

- Assorted grits of sandpaper
- Masking tape (to attach blanks for stack cutting)
- · Spray adhesive

#### Tools:

• Drill with 1/16"-diameter bit

#### **Materials** & Tools

- #1 and #3 reverse-tooth blades or blades of choice
- Drill bit that matches the diameter of the mini-lights
- · Disk sander (optional)
- · Hot glue gun and glue sticks

#### SPECIAL SOURCES:

Mini-lights can be obtained from:

Novelty Lights Inc.: 1630 West Evans Ave, Suite L; Inglewood, CO 80110, 800-209-6122 (battery and electric mini light sets). National Artcraft: 888-937-2723 (battery-powered light sets).

Patterns for the **WINTER WOODLAND LIGHTED ARCH** are on the pattern pullout.



Tom Sevy Lives in Utah and can be contacted at sevy99@mstar2.net.



Based in Dresden, Germany, you can visit Volker Arnold's website at www.va-holzkunst.de.

# **Break of Dawn**



#### Easy napkin holder features a strutting rooster in intarsia or fretwork

By Kathy Wise

An ideal partner for your morning coffee, this country rooster is a great way to show off your scrolling skills. The napkin holder is easy to make and can be embellished with fretwork or intarsia. Careful wood selection brings the intarsia version to life, and the project is simple enough to be completed in a single day. You can substitute an alternate design to match your décor.

Create matching designs for both sides of the holder by stack cutting. The sections of the intarsia design can be stack cut from ½"-thick wood. The fretwork rooster is stack cut from ¼"-thick stock.

Always keep a master copy of your pattern for later use. Make two copies of the side pattern per napkin holder. For the intarsia overlay, make five copies of the rooster pattern. Cut the pattern pieces apart and separate them into color groups. You need only one copy of the fretwork rooster. Tape contact paper flat on a board. Spray adhesive on the pattern and position it on the shiny side of the contact paper. Cut the blanks to size according to the materials list.

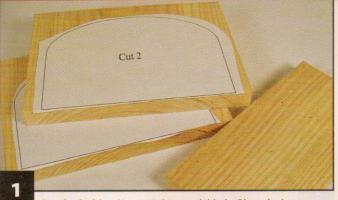
Make sure all the wood you use is flat. Plane any wood that is not flat, because you must have flat wood to get a tight-fitting intarsia.

#### TIP

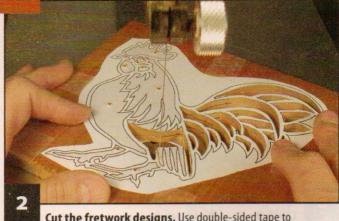
#### **SQUARE CUTS**

Make sure your blade is square to the saw table by using a square to check a cut piece.

#### NAPKIN HOLDER: FRETWORK



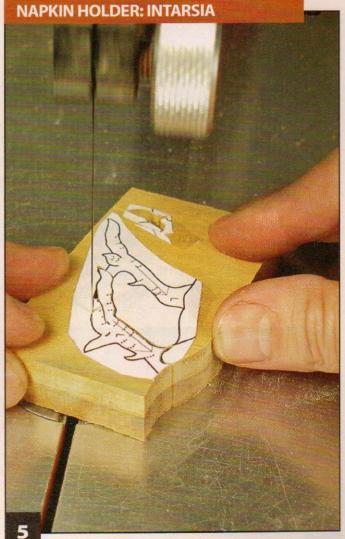
**Cut the holder.** Use a #5 skip-tooth blade. Place the bottom of the side patterns on a flat edge to ensure a good joint. Round the edges by sanding them or using your router bit of choice. Do not round the side pieces where they attach to the base. Sand the pieces smooth.



Cut the fretwork designs. Use double-sided tape to attach two ¼"-thick blanks together. Attach the pattern and drill ½6"-diameter blade-entry holes. Sand away any tear out on the bottom. Cut the internal frets first, then cut the perimeter. Separate the stack and sand the wood smooth.



**Glue the fretwork to the sides.** Dry fit the rooster to the side piece, and mark the location of the feet with a pencil. Apply dots of clear cyanoacrylate (CA) glue to the back of the roosters and press them in place on the sides. Apply spray varnish to the fretwork, sides, and base.



of the rooster. Cut the pieces individually or use double-sided tape to attach two ½"-thick pieces of wood for each section. Stack cutting creates matching overlays for each side. Cut the pieces with a #3 skip-tooth blade. Do not cut the individual feathers yet.



Assemble the holder. Use a pencil to mark the position of the sides on the base. Drill and countersink four holes in the base. Align the sides and use a nail through the holes to mark the sides. Drill pilot holes on the marks. Apply wood glue to the bottom of the sides and attach them to the base with screws.

#### **NAPKIN HOLDER: INTARSIA**



**Check the fit of the pieces.** Position the cut pieces on a copy of the pattern. Adjust the fit or recut as necessary. Separate the stacks and use CA glue to attach the two parts of the wing together. Cut apart the individual wing feathers. Reassemble the two roosters.



**Sand and shape the pieces.** Use a 2"-diameter pneumatic drum sander and a 220-grit sanding sleeve to shape the larger pieces. Replace the pieces back on the pattern to check the flow and mark the areas to remove. Mark, sand, and replace the pieces as often as necessary.



Add the details. Use a rotary power carver with a ½" or ¼"-diameter sanding drum to shape the smaller pieces and add details. Drill a hole for the eye or add a small ebony dowel. Use a carving knife to clean out the cuts on the wings. Add detail to the legs and beak with a wood burner.

9

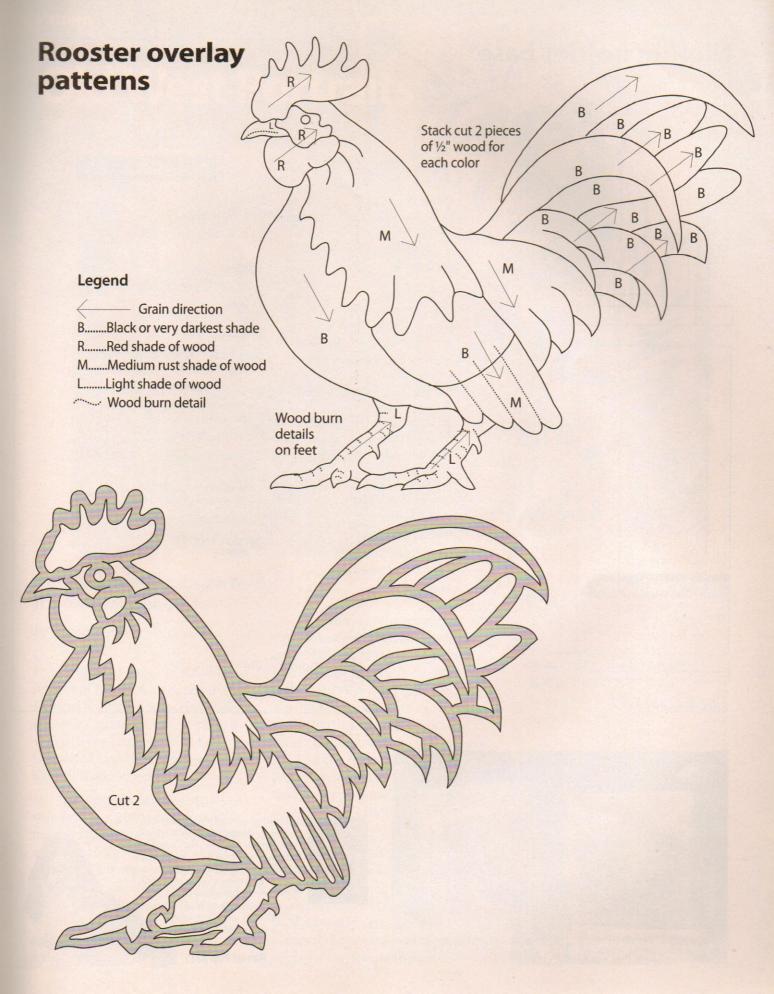
**Smooth the pieces.** Sand the pieces with a 220-grit or finer sanding mop. This gives the pieces a nice sheen and it removes the scratches from the earlier sanding process. It also produces a smoother surface in preparation for the application of the spray varnish in step 11.



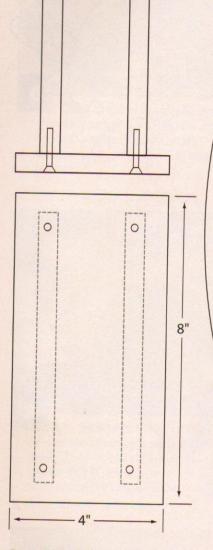
**Tack the rooster together.** Use CA glue. Place several dots of glue on one side and spray CA glue accelerator on the side of the adjoining piece. Press them together on a flat surface. Sand the back of the joined pieces to ensure a flat surface. Spray varnish on the sides and tops of the roosters and the base.



Glue the roosters to the sides. Mark the location of the rooster with a pencil. Apply CA glue to each section of the back of the rooster. Spray accelerator on the side piece. Position the rooster and hold it in place until the glue sets. Apply spray varnish to the side piece. Assemble the napkin holder (see step 4).



## Napkin holder base



Base assembly

#### Materials:

- · Holder materials:
- 2 each ½" x 5½" x 7" light-colored wood such as ash (sides)
- 1/2" x 4" x 8" light-colored wood such as ash (base)

#### Intarsia materials:

- 1/2" x 4" x 4" yellow wood such as yellowheart or satinwood
- ½" x 6" x 12" black wood such as wenge
- 1/2" x 6" x 12" medium-tone wood such as lacewood
- ½" x 3" x 4" red wood such as bloodwood

#### Fretwork materials:

• 1/4" x 8" x 13" red wood such as mahogany

#### Other materials:

- · Clear shelf contact paper
- · Spray adhesive
- · Cyanoacrylate (CA) glue
- · Cyanoacrylate (CA) glue accelerator
- 4 each #8 x 1¼" wood screws
- · Wood glue

#### **Materials** & Tools

- · Spray varnish
- · Double-sided tape
- Assorted grits of sandpaper

#### Tools:

- #3 & #5 skip-tooth blades
- Drill
- · Mop sander with 220-grit sanding mop
- %4"-diameter drill bit countersinkbit combo
- 1/16"-diameter drill bit
- · Router with round-over bit (to round sides of holder)
- · Small nail (to mark sides)
- · Sander of choice (I use a pneumatic drum sander)
- Rotary power carver with 1/2" or 1/4"-diameter sanding drum
- Wood burner (optional)
- · Carving knife (to clean out feather details)

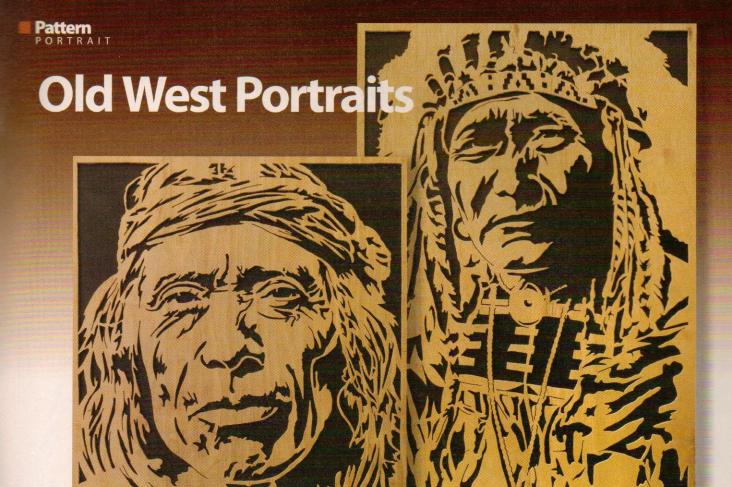
Napkin holder - side Cut 2





Much of Kathy Wise's time is spent on exciting new designs for intarsia artists and writing her next book. Her first book with Fox Chapel, Intarsia Woodworking Projects, is now available. For a free catalog of more than 350 intarsia patterns or to order a signed copy of her book, contact: Kathy Wise Designs Inc., PO Box 60 Yale, MI 48097, fax: 810-387-9044, www.kathywise. com, or kathywise@bignet.net.

Basset Pup #211



## Detailed designs are derived from vintage photos

By Charles Dearing

I discovered a wealth of striking images of Native Americans in the Edward S. Curtis Collection. The emotion captured in these photos spoke to me and begged to be translated into the stark dark and light of shadow portraits.

The patterns can be cut as standard 8" x 10" portraits, but make a stunning impression when enlarged to 11" x 17". I use spiral blades, which allow me to cut in any direction without rotating the wood or being confined by the size of my saw. If you've never used a spiral blade before, practice on scrap wood first.

To minimize the fuzzies on the back of the portrait, stack-cut several pieces at the same time. You can discard the bottom piece if the fuzzies are too bad. You can also add a piece of thin cardboard to the bottom of your stack. The most common method is to simply sand off the fuzzies. Tape the waste pieces back in place with painters' tape to support the delicate areas when you are sanding.

After cutting and sanding, apply several coats of clear spray lacquer. Then glue the portrait to another piece of Baltic birch plywood painted black. The backing board provides the contrast the portrait needs, and it supports the fragile fretwork.

#### **Materials** & Tools

#### Materials:

- 2 each 1/8" x 81/2" x 11" Baltic birch plywood (one painted black)
- Clear spray lacquer
- Masking tape (to hold stack together)
- · Black spray paint
- · Assorted grits of sandpaper up to 220-grit
- · Wood glue

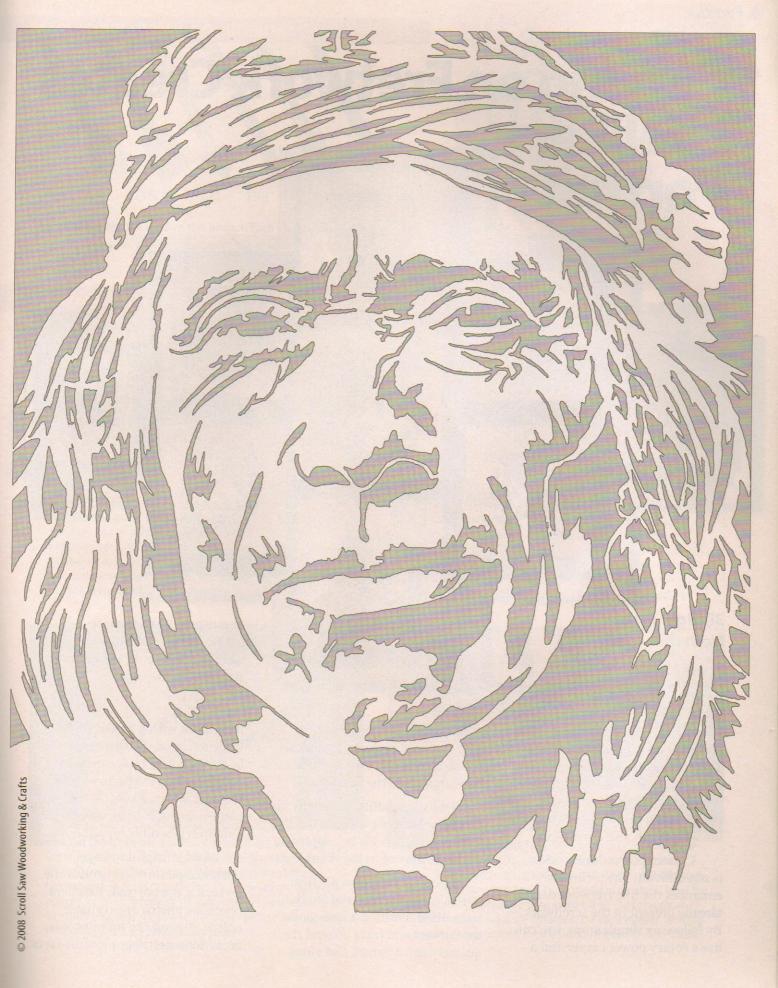
#### Tools:

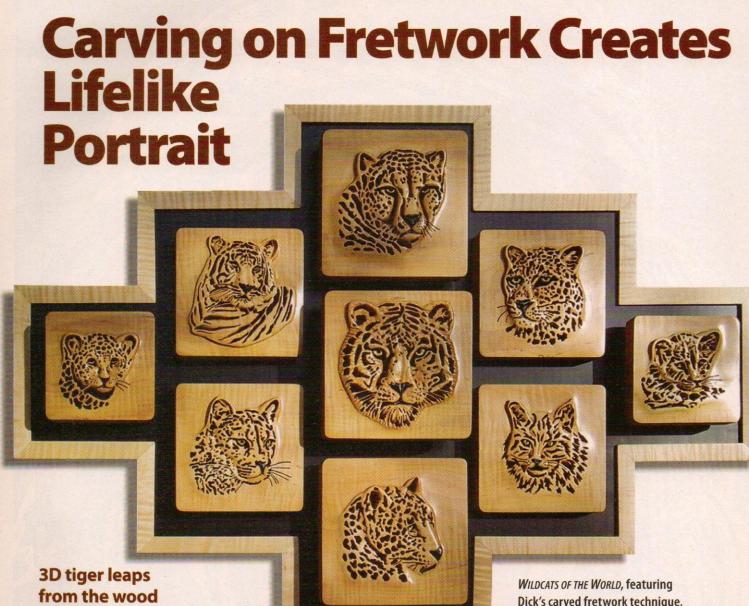
- #3 spiral-reverse-tooth blades or blades of choice
- Drill with 1/16"-diameter drill bit
- Clamps of choice
- Sander of choice (optional)



Charles Dearing lives in Hamilton, TX. He is the author of the Fox Chapel book, Wildlife Portraits in Wood, available at www.FoxChapelPublishing.com. For more of his work, visit www.BullRunArt.com.







from the wood

By Dick Miraglia Pattern by Theodore P. Buzzelli

> router to add unique texture to your fretwork projects. If you can do the scrollwork, I am confident you can also do the carving.

Realistic wildlife, especially big cats, is my favorite subject, but the technique can easily be adapted to a wide variety of fretwork projects.

To create your own 3D tiger portrait, cut the materials to the sizes listed. Position a quarter on the corners and trace around the quarter with a pencil. Cut along

these lines with a #5 skip-tooth blade to round the corners on both boards. Photocopy the pattern and cut 1/8" outside the perimeter of the tiger with scissors. Attach the pattern to the 1"-thick wood with temporary-bond spray adhesive.

took Best of Show in the SAW contest

at the 2007 PA Scrollabration.

I find it helpful to have reference pictures on hand while texturing the portrait. Excellent reference photos are available online. A good site for photos is http://fohn.net/tiger-pictures-facts.

I developed a new technique to bring fretwork portraits to life. This carved-fretwork technique combines traditional scrolling with basic relief-carving techniques. The combination brings the portraits to life with depth and dimension.

Creating carved fretwork is not difficult. The technique enhances the fine fretwork details already present in the scrollwork. By following simple steps, you can use a rotary power carver and a

# CARVED FRETWORK: ROTARY BITS

Six different bits are used on this project. Each bit is referred to by the Dremel product number as it is used in the demonstration.

121

192

117

196

144

115



#### **CARVED FRETWORK: LOWERING THE BACKGROUND**



Start to lower the background. Use a router or laminate trimmer and a ½"-diameter flat-bottomed straight bit. Place the wood on a non-slip router pad. Set the router to make a ½"-deep cut. Make a pass ¼" away from the edge of the pattern. With your second pass, remove the background closest to the pattern. Use a 1"-thick board for support as you remove wood from the edges.



Continue to lower the background. Set the router or laminate trimmer to make a ¼"-deep cut and repeat step one to reduce the entire background. Then set the router to make a ¾"-deep cut and repeat the process. Your background will be ¾s" below the pattern. Reducing the background in steps prevents tear-out and is safer than removing the entire thickness at once.



Cut the fretwork. Drill ½6"-diameter blade-entry holes where required. Cut the frets with a #3 spiral blade. Do not cut along the red line. Place the completed cutting in a plastic zip lock bag with ¼ cup of paint thinner. Close the bag and place the plaque face down to saturate the pattern with paint thinner. Wait 10 minutes. Remove the plaque, pull off the pattern, and wipe off the thinner. Allow the plaque to dry completely.



Begin shaping the face. Use a rotary power carver and a cone-shaped bit (#117) to round the edges. Switch to a pear-shaped bit (#144) to start shaping the face. On the right side, start below the ear and work towards the middle of the chest. Taper the wood from 1/8" thick at the edge to the full 3/8" thickness about 1" in from the edge. Taper the left side in the same manner, working along the perimeter from the whiskers to the center of the chest.

#### **CARVED FRETWORK: SHAPING THE FACE**



Reduce the thickness of the chest. Use a pear-shaped bit (#144) to remove 1/8" of wood from the chest area so it blends in with the tapered perimeter. Reduce the thickness on the right side of the face between the eye and the whisker area, working from the border in towards the eye and nose. Reduce the extended whiskers on the right side so they are flush with the background.



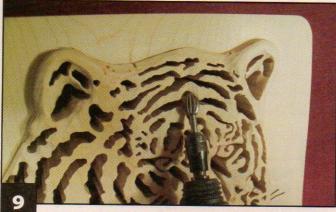
Carve the eyes and ears. Use a pear-shaped bit (#144) to shape the ear canal. Use the same bit to round the outside of the ears. Use a bud-shaped bit (#121) to remove 1/4" of wood from the eye socket area. An eye is spherical, and the pupil is the highest point. In this project, a fret represents the pupil. Use the same bit to gently taper the remaining wood (the iris) away from the pupil.



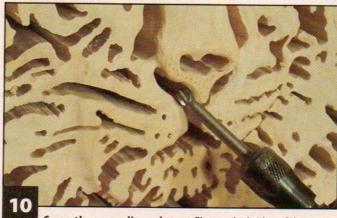
**Carve the snout and cheeks.** Run a pear-shaped bit (#144) up alongside the snout to remove the sharp edges. Stop below the eye. Gently taper the snout up to the high point at the nose. The cheekbones are just below the outside corners of the eyes. Remove wood from the cheek area below the cheekbones and the inside of the cheeks, tapering them in towards the snout.



Carve the eyebrows. Round the bottom of the eyebrows with a bud-shaped bit (#121). To define the eyebrows and give them prominence, use the tip of the bit to carve a small shallow channel above each eyebrow. Carve a slight depression in the center of the snout between the eyes. Look over the eye and cheek area and smooth any sections that don't flow naturally.



Carve the top of the head and the forehead. Reduce the thickness of the wood between the ears with a pear-shaped bit (#144) to make the ears prominent. Carve a depression down the center of the forehead from the top of the head to the top of the nose. Smooth the forehead by making semicircular strokes outward from the center of the forehead towards the ears.

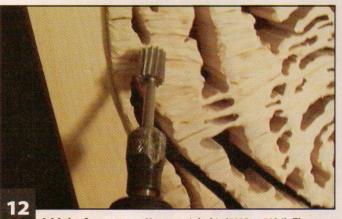


Carve the upper lip and nose. Flatten the bridge of the nose with a pear-shaped bit (#144). Taper the snout into the cheeks. Carve a dip on the snout above the ball of the nose. Use a bud-shaped bit (#121) to texture the nose. Then round the edges of the nose pad and nostrils. Use a small, round bit (#192) to remove wood below the nose and round the edges under the nose.

#### **CARVED FRETWORK: ADDING TEXTURE**



Carve the lower lip and chin. The upper lip protrudes over the lower lip and chin. The chin is like an oval pillow with a thick center and tapered edges. Use a bud-shaped bit (#121) to taper the edges. Then add texture by carving curved lines with the top edge of a straight bit (#115 or #196). Start at the outside and work clockwise around the chin. Work your way in towards the center.



Add the fur texture. Use a straight bit (#115 or #196). The hair inside and in front of the ears is longer than the fur on the outside of the ear and on the face. Make short, light strokes for the short hair. Use heavier pressure and longer strokes to simulate the longer hair. As you move away from the center of the face, the hair tends to be longer and coarser.



Sand the Portrait. Sand the background and back of the plaque with progressively finer grits of sandpaper up to 220 grit. For best results, sand the tiger's face with Scotch Brite Radial Bristle Discs. These discs smooth the surface and remove fuzzies without destroying the carved details. Alternatively, lightly sand the tiger by hand. Remove the sanding dust before finishing.

#### **CARVED FRETWORK: FINISHING NOTES**

Dip the plaque in Watco Danish oil. Wipe it dry with a clean, soft, lint-free cloth, and allow it to dry for 72 hours. Remember to dispose of the oily rags properly because of the spontaneous-combustion fire hazard when using oil finishes.

Dip the plaque in Minwax Wipe-On Polyurethane to seal inside the frets. Wipe it down with a clean, lint-free cloth, and allow it to dry completely. Apply at least three light coats of wipe-on polyurethane to the surface of the plaque. Lightly sand with 300-grit sandpaper between coats.

To avoid making a visible black line between the backing board and the plaque, use painters' tape to make a ½"-wide border on the edges of the backing board. Paint the backing board with two coats of matte black paint. I use Rust-Oleum textured spray paint. Remove the painters' tape when the paint is dry. Glue and clamp the backing board to the plaque. Sand the outer edge of the assembled project with progressively finer grits of sandpaper up to 220 grit. Round the corners and the back. Remove the sanding dust and apply Danish oil to the edges and back. Allow it to dry and finish it with several coats of wipe-on polyurethane until it matches the front of the plaque.

#### Materials:

- 1" x 8" x 8" fine-grained hardwood such as maple (fretwork)
- ½" x 8" x 8" matching finegrained hardwood such as maple (backing board)
- Temporary-bond spray adhesive
- · Wood glue
- Matte black paint or Rust-Oleum textured spray paint
- Sandpaper: 120, 150, 180, 220, and 300 grits
- 1"-wide blue painters' tape
- · Paint thinner
- · Watco Danish oil
- · Minwax Wipe-On Polyurethane
- · Soft cloth (wiping finish)
- · Clear packaging tape
- Hanger of choice
- Scotch Brite Radial Bristle Discs: 120, 220, and 400 grits (optional)

#### **Materials** & Tools

#### Tools:

- #3 spiral blades and #5 skip-tooth blades
- Router, or laminate trimmer, with ½"-diameter straight bit
- Router pad
- Rotary power carver
- Dremel carving bits: coneshaped (#117), pear-shaped (#144), bud-shaped (#121), small, round (#192), straight (#115 or #196)
- Random orbit sander or sander of choice
- Drill with 1/16"-diameter bit
- Scissors
- Clamps
- Fine artist paint brushes

## Carved fretwork tiger pattern





Dick Miraglia is an award-winning scrollsawyer who lives in Pocono Lake, PA. Contact him at dmiraglia@epix.net.



First router pass

Edge of routed background

Reduce to depth of background (Step 5)



**Moonlight Stallion** 



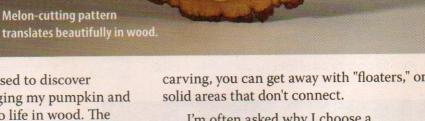
Galloping horse designed for watermelon carving can be cut in wood

By Jay Ball Wooden plaque cut by Ben Fink

I was pleasantly surprised to discover woodworkers are bringing my pumpkin and watermelon patterns to life in wood. The patterns are extremely versatile and most can be executed in wood with no changes. The opposite is true as well. Scroll saw patterns can easily be cut in pumpkins or watermelons for festive seasonal displays. I'm always flattered to see wooden art derived from my patterns and am eager to try fruitcutting techniques with traditional scroll saw patterns.

Melon-cutting pattern

Whether you are creating patterns for fruit or wood, the basic design theory is the same. You need solid and cut-out spaces, and you need bridges, or connecting areas between the solid areas. If you don't pierce the whole way through the fruit while



carving, you can get away with "floaters," or

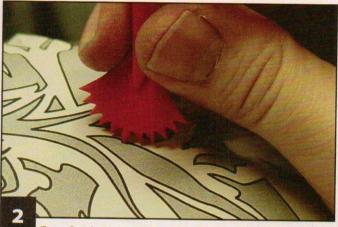
I'm often asked why I choose a temporary medium for my work. Why put in the effort of creating a beautiful work of art that is only going to wilt away in a few days? I sum it up in my book, You Too Can Create Stunning Watermelon Carvings: "My objective in creating a beautifully carved watermelon is to create a special memorable moment. Seasons change, leaves turn color, flowers bloom and wither. Life is always in a state of transition. Life goes on, flow with it. Create something beautiful, then let it go. Then create something beautiful again. Don't try to stop the river, move with it. Live life to its fullest, enjoy, then repeat."

#### **MOONLIGHT STALLION: CARVING FRUIT**

When creating a pierced fruit design or cutting the pattern in wood, the technique is essentially the same. You want to remove the spaces so the solid areas convey the design. When the image is cut in wood, a backer board creates the necessary contrast. When the image is cut in fruit, a light inside the hollowed fruit is used to create the dark and light contrast. While I am demonstrating the techniques on a watermelon, the process is identical for a pumpkin.

#### SHARP CORNERS

Stop and remove the knife when you come to sharp corners. Then restart your cut going the other direction.



**Transfer the pattern.** Tape the pattern to the side of the watermelon. Make slits in the pattern to help it conform to the round surface. Poke along the pattern lines with your tool of choice. Remove the pattern and use it for a reference. Pounce white flour into the poked holes to make them more visible.



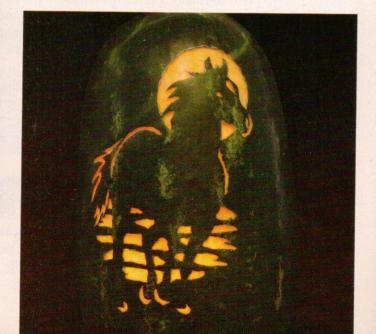
**Display the carving.** Use a candle or a 15-watt light bulb on a flat base to illuminate the fruit. If using a light bulb, create a diffuser from an old manila folder to soften the glow.



Hollow out the watermelon. Use a melon baller tool or ice cream scoop and save the fruit in a bowl. Then scrape out any remaining fruit. The more fruit you remove, the longer your carving will last. The fruit turns rancid faster than the hard rind.



Carve the design. Follow along the dotted lines with a small carving saw. Use an up and down sawing motion, similar to the way a scroll saw blade cuts. Plan your cuts to provide support to fragile areas. Look at the letter "C." If you cut the outside of the "C" first, there is little support for the inside of the "C." This will increase the likelihood that the inside of the "C" will break off and ruin your project. Cut smaller details before larger ones.



#### **Materials** & Tools

#### Materials:

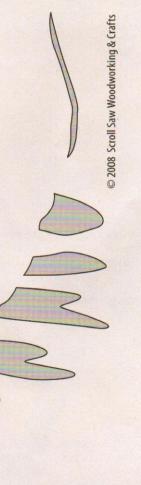
- Large watermelon or pumpkin
- Flour (to highlight design)
- · Manila folder

#### Tools:

- Toothpick or similar tool to transfer design
- · Hobby knife or carving knife of choice
- Light (or candle)

#### TRANSFERRING PATTERNS

Poking is not the only way to transfer the pattern. I have also had good success with transferring the pattern using transfer paper.





Jay Ball lives with his wife and 6 children in Smithfield UT. He enjoys graphic art, pumpkin carving, and writing. He is the author of You Too Can Create Stunning Watermelon Carvings. To purchase the book or see more of his work, visit www.pumpkinglow.com.



#### Stunning bull elk design highlights wood selection

By Kathy Wise

This majestic portrait of a bull elk will be admired by hunters and wildlife enthusiasts alike. In addition to creating the design as a wall hanging, you can easily use it as an overlay for a gun cabinet or alter the base to accommodate Shaker pegs and use it as a coat rack.

This piece was inspired by a family trip to northern Michigan last summer. We visited a rural area near Atlanta, MI, where elk were relocated many years ago. We watched as a large bull elk sprinted across a field and stopped near the gravel road where we were parked in our car. He lifted his head to test the air, then crossed the road like he owned it. We were thankful to have been at the right place at the right time to see such an awesome creature.

Shaping individual tufts of fur adds depth and dimension.



#### Materials:

- 1" x 6" x 7" white wood such as poplar
- 1"x 8" x 13" lightcolored wood such as light sycamore
- 1"x 8" x 10" mediumlight wood such as medium-light sycamore
- 1" x 8" x 13" light colored wood such as ash
- 1" x 6" x 6" mediumcolored wood such as beech

- 1" x 8" x 20" mediumdark wood such as black walnut
- 1" x 8" x 18" dark wood such as wenge
- 34" x 6" x 22" medium-black wood such as bocote
- 34" x 6" x 22" dark wood such as wenge
- ¼" x 19" x 26" plywood or Masonite (backer)

#### **Materials** & Tools

- · Wood glue
- Cyanoacrylate (CA) glue
- Spray varnish or finish of choice

#### Tools:

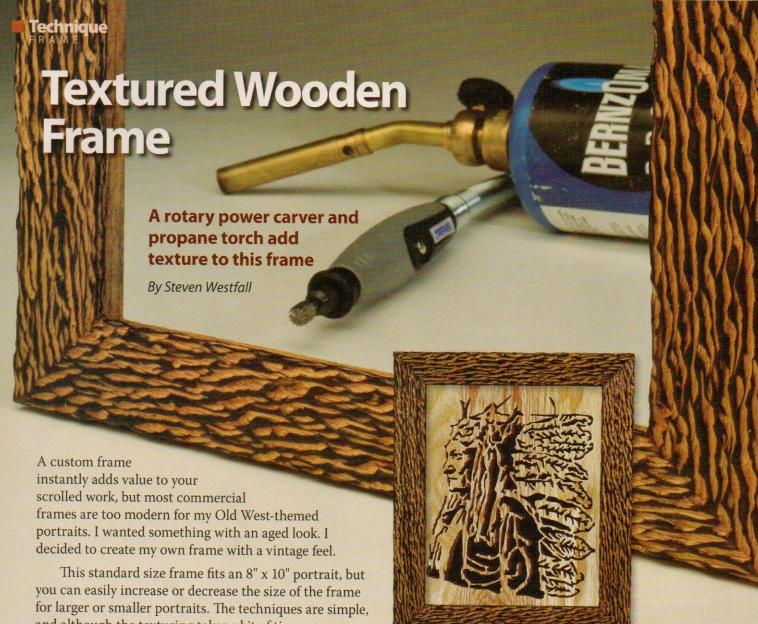
- #5 reverse-tooth blades or blades of choice
- Pneumatic drum sander or sander of choice

Pattern for the **MAJESTIC ELK** is on the pattern pullout section.

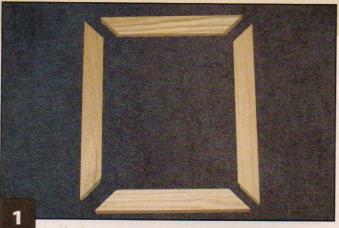


Much of Kathy Wise's time is spent on exciting new designs for intarsia artists and writing her next book. Her first book with Fox Chapel, Intarsia Woodworking Projects, is now available. For a free catalog of more than 350 intarsia patterns or

to order a signed copy of her book, contact: Kathy Wise Designs Inc., PO Box 60 Yale, MI 48097, fax: 810-387-9044, www.kathywise.com, or kathywise@bignet.net.



and although the texturing takes a bit of time, you can easily finish the frame in a weekend.



Cut the frame pieces to size. Cut a ½"-deep by ¼"-wide rabbet along the inside edge of the frame pieces with a router or table saw. Cut 45° miters on each frame piece so the opening fits the size of your portrait. My opening measures slightly under 8" x 10" so the portrait rests in the rabbet.

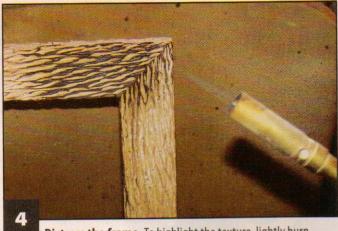


Assemble the frame. Use biscuit joints, pocket joints, or dowels to strengthen the miters. The backing board attached later also adds durability to the frame. Apply wood glue to the miters and clamp them in place. An inexpensive framer's clamp makes it easy to get a perfectly square frame.





**Texture the frame.** Use a 1/8"-diameter, cylinder-shaped stump cutter to carve irregular ridges all over the frame. The cutter tends to pull itself into the softer areas of the grain. Allow the grain to guide your cuts, but avoid a distinct pattern.



**Distress the frame.** To highlight the texture, lightly burn the high ridges with a hand-held propane torch. Be careful not to char the wood. You may want to practice the burning technique on scrap wood until you can color the wood without charring it.



**Seal the frame.** Apply several coats of spray lacquer to the frame. This seals in the soot and darkened wood and adds a gloss to the frame. Sand lightly between each coat with 400-grit sandpaper for a smooth finish.



Attach the backing board. Position the portrait inside the frame. Attach the oversized backing board to the frame with small brass screws. Set the scroll saw table to the steepest possible angle and cut along the frame sides to trim the backing board to size. Attach a picture hanger to the back.

#### Materials:

- 2 each 3/4" x 11/2" x 121/2" oak or wood of choice (long frame pieces)
- 2 each 34" x 11/2"x 101/2" oak or wood of choice (short frame pieces)
- 1/4" x 11" x 13" Baltic birch plywood (backing piece)
- · Wood glue
- · Biscuits, pocket joint screws, or dowels
- · Gloss spray lacquer
- Assorted grits of sandpaper up to 400-grit
- · Small brass screws to attach backing board
- · Picture hanger

### Materials & Tools

- Table saw (to cut miters, rabbets)
- · Miter saw (optional to cut miters)
- Router with rabbet bit (optional to cut rabbets)
- #3 reverse-tooth blades or blades of choice
- Biscuit jointer, pocket jointer with drill, or dowel jig with drill (to strengthen miter joints)
- Frame clamp or clamps of choice
- Rotary power carver
- 1/8"-diameter cylinder-shaped stump cutter
- · Propane torch
- Screwdriver



Steven Westfall lives in Arthur, W.C. Contact him via email at steve03@frontiernet.net.

## Custom Scroll Saw Stand



## Build an inexpensive stand for maximum comfort and efficiency

By Gary MacKay

Standard scroll saw tables require you to stand or use a high stool or chair. I find both of these options uncomfortable after just one hour at work on the saw. To increase my productivity and allow me to work comfortably for extended periods of time, I designed a scroll saw stand to my own specifications.

The first stand was designed for my Dewalt DW788. I designed it to be the right height for me to work while sitting in a comfortable chair. I made a similar stand for my RBI Hawk G4 saw. The G4 has an enclosed base that is more difficult to attach to the stand. Both versions use readily available 2x4 studs and 3/4"-thick plywood.

**Step 1:** Determine the optimum height. Sit in the chair you plan to use at the saw. Hold your arms at a comfortable sawing height—your arms, from elbows down, should be close to horizontal. Have someone else measure the distance from the floor to the bottom of your arms. For me, it was 33". Enter the measurement in Box A.

**Step 2:** Determine the length of the table legs. Measure the distance from the base of the scroll saw to the top of the saw table. Enter the measurement in Box B. Enter the thickness of the plywood to be used for the top of the stand in Box C. Add Box B and Box C together and record the measurement in Box D. Subtract Box D from Box A and record the measurement in Box E. My sample calculations are listed in the chart.

Step 3: Cut the legs to size. Cut the eight legs to the length recorded in Box E. Nail or screw together the four pairs of 2x4 legs to create four 4x4 legs.

**Step 4:** Determine the size of your table. It should be 24" wide. The length can vary from 28" to 32". Cut four 2x4s that are 3" less than the length of your table for the long stand supports. Cut four 24"-long pieces of 2x4 for the short stand supports.

**Step 5:** Attach the long table supports to the legs. Place two of the legs on the floor with the 3" width facing you. Position one long support across the legs on one end. Use a large square to ensure that the top of the long support is square to the legs. Nail or screw the long support to the legs. Use the same technique to attach a long support to the other two legs.

**Step 6:** Attach the long supports to the bottom of the legs. Make a mark 4" up from the bottom of both legs. Place the lower edge of the long support on the marks and attach the support to the legs with nails or screws.

**Step 7:** Attach the short supports to the legs. Match the ends of the short supports up with the ends of the long table supports. While the long supports end at the edge of the legs, the short supports extend to the outside edge of the long supports. Make sure the supports are square to the legs and nail or screw all four short supports in place. Work on one end first, then flip the stand to attach the other two supports.

**Step 8: Fasten down the stand top.** (If your saw has an enclosed base, proceed to step 9.) Cut the plywood to size, based on your stand. Nail or screw the plywood to the legs and supports. Place the saw on the table and use a pencil to mark the mounting hole positions on the plywood top. Drill holes through the plywood, then bolt the saw down using the largest bolts, nuts, and washers that will fit through the mounting holes in the saw base.

**Step 9:** Cut any required holes in the bench top. Some saws, such as the Hawk G4, require you to cut a hole in the top for the motor. Cut the plywood to size, then determine the location of the motor, and transfer the measurements to the plywood. Drill a ¼"-diameter bladeentry hole and use a saber saw or jigsaw to cut out the required area. Nail or screw the plywood top to the legs and supports.

Step 10: Make the mounts for an enclosed base saw. Position the scroll saw on the stand and trace around the perimeter of the saw with a pencil. Remove the saw and glue four 2x4 scraps inside the four corners you just marked. Place the scroll saw in position before the glue dries to ensure a perfect fit. After the glue dries, attach the scroll saw to the blocks with four 1"-long wood screws.

## **ASSEMBLY DRAWING** Top (24" x 28" to 32") Legs (Box A - Box D) Top long support (25" to 29" long) **Materials** & Tools • 6d (2"-long) nails or #8 x 2" wood screws Top short support Bottom (24" long) Bottom short support long support (24" long) (25" to 29" long)

#### Tools:

Materials:

(bench top)

saw mounting)\*

• 2 each 2x4 x 8' studs (legs) • 3 each 2x4 x 8' studs (supports) • 34" x 24" x 28" to 32" (top)

screws (2x4 construction)

· 4 each bolts, nuts, and washers (mounting scroll saw on bench top) · 4 each 2x4 stud scraps (enclosed base

 4 each #10 x 1" long wood screws (enclosed base saw mounting)\* · Wood glue (enclosed base saw

• 10d (21/8" long) nails or #8 x 3" wood

- · Circular or table saw
- · Hammer or cordless screwdriver
- Tape measure

mounting)\*

- 16" x 24" square
- 12" square
- Pencil
- · Saber saw or jigsaw\*
- Drill with ¼"-diameter drill bit\*

\*To mount enclosed-base scroll saw to table top



Gary MacKay of Myrtle Beach, SC, is the author of the Fox Chapel book, Box Making Projects for the Scroll Saw, available at www.FoxChapelPublishing.com.

| Box A<br>(Optimum<br>height) | Box B<br>(Distance from<br>base of saw to<br>table of saw) | Box C<br>(Plywood<br>thickness for<br>top of stand) | <b>Box D</b> [Box B + Box C] | Box E<br>(Final Leg Length)<br>[Box A - Box D] |
|------------------------------|--|---|------------------------------|--|
| 33"                          | 81/4"  | M34"P   | 911                          | 24"  |
|                              |  |   |                              |  |

**Stand Measurements** 



# Marquetry Basics

#### Learn to saw beautiful pictures with thin veneers

By Ken Horner

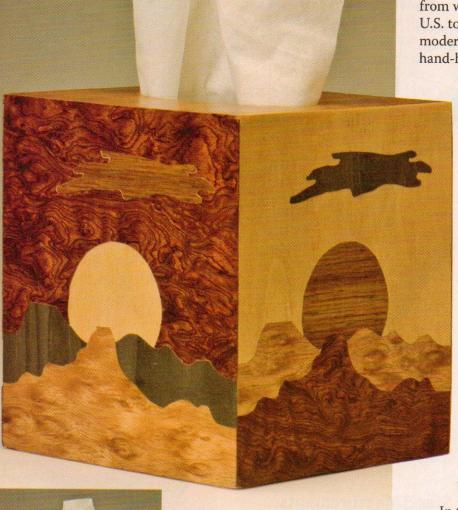
Marquetry is the art of making pictures from wood veneers. Most veneers used in the U.S. today are 1/30"-thick, and the majority of modern marquetarians cut the pieces with hand-held fret saws or scroll saws. Many

> European marquetarians use a knife, following the traditions of 18thcentury Italian and French masters.

Veneer prices average between \$0.50 to \$1.50 per square foot in 100 square-foot quantities and are available in a wide variety of colors and grain patterns. A lot of cabinet shops use veneer and are happy to give away the cut-offs. This is one craft where the tools and materials are anything but expensive.

Most marquetry projects are cut using the double-bevel method or the pad method. The double-bevel method uses an inlay technique to create a tapered insert piece and a conical hole, producing a perfect fit. Most beginners start with the pad method, which is similar to segmentation techniques. In the pad method, a stack of different colors of veneer are cut with the blade set at 90°.

In this article, you'll learn to cut a stack (or pad) of veneers to create four scenes for a tissue box. You will need five pieces of veneer that together measure just over one square foot. The individual pieces are separated and reassembled by mixing-and-matching to make multiple copies of one pattern. Because we are using a very thin blade, once the kerf has been filled, the lines between the pieces are almost invisible.



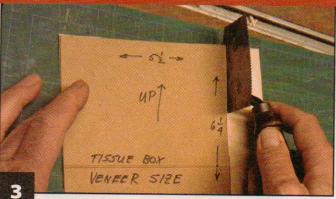
### **MARQUETRY BASICS: MAKING THE BOX**



Cut the box sides. Cut the pieces to size as listed in the materials list. You may need to adjust the size slightly to compensate for variations in the thickness of the plywood. Position the pieces around a box of tissues to test the fit. The wooden box should be 1/8" bigger than the tissue box on all sides. Glue and nail the pieces together.

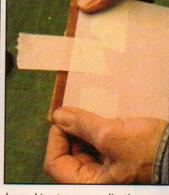
Add the top. Use veneered paneling or glue a piece of veneer to thin plywood. Cut the stock to size and transfer the top cutout pattern. Drill a blade-entry hole and cut the hole with a #9 reverse-tooth blade. Sand the edges smooth and glue the top in place. Sand the outside of the box. Fill in any voids with wood filler and sand the box again.

### **MARQUETRY BASICS: CUTTING THE DESIGNS**

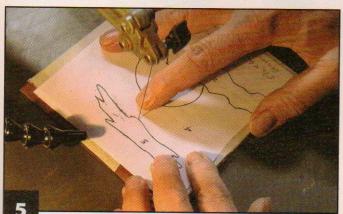


Prepare the veneer. Choose five pieces of veneer that are all close to the same thickness. Orient the grain of each piece to give the best contrast. Because the pattern has five different pieces, five different veneers are needed. This will give us five sides, but the project only uses four. Cut the veneer to size with a veneer saw and a cardboard template.

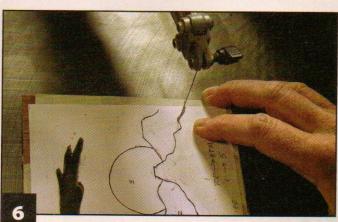




Reinforce the veneer. Apply masking tape or application tape to the back of each piece to keep the thin pieces from breaking. Application tape is available at local sign shops. Press down the tape with a J-roller or a wallpaper roller. Stack the pieces, tape-side down, one on top of each other. Secure the four edges with tape and attach the pattern to the top of the stack.



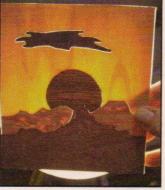
Cut the cloud. The cloud is not connected to any outside edges, so drill a blade-entry hole with a 1/32"-diameter bit. Enlarge the hole slightly with a push pin. Ensure that your #4/0 blade is perfectly square to the table (see page 18 for several methods) and cut around the perimeter of the cloud. Set the five cloud pieces to the side.



Cut the remaining pieces. Cut in from one side, around the elements, and back out the other side. As you cut each segment, re-tape the pad before making the next cut. If you stray off the line, move gradually back to the pattern. Don't make sharp corrections. When all of the parts have been cut, take the pad apart and separate the individual pieces.

### MARQUETRY BASICS: ASSEMBLING THE DESIGNS





Assemble the scenes. Mix the pieces so they make five pictures with five different veneers in each picture. Try different combinations. Lay tape sticky-side-up on the table and position the pieces on the tape, with the pre-taped side down. Roll the pieces with a roller. Hold the scene up to a light and reposition any pieces that are too far apart.

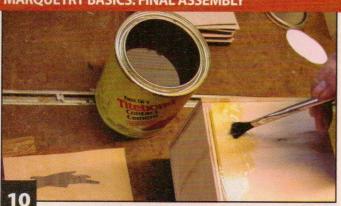


Fill the voids. Make a paste of white wood glue and sawdust, or use a commercial paste filler. Use dark fillers on dark woods and light fillers on light woods. Fill the voids from the side that does not have tape on it. Push the filler into the cracks and scrape off the excess. Hold the scene up to the light to make sure you've filled all the voids.



**Weigh down the veneers.** If the pieces are allowed to air dry, the moisture in the glue will cause the piece to warp and twist. Immediately wrap each scene in wax paper and place the stack on a flat surface. Place a board on the pile and put a weight on top. The sections will be dry in an hour or two. Remove each scene and sand it with 220-grit sandpaper.

### **MARQUETRY BASICS: FINAL ASSEMBLY**



Glue the marquetry to the box. Spread contact glue (cement) to all four sides of the box according to the manufacturer's instructions. Then spread the contact glue on the back of the marquetry panels. After the contact glue has dried, place the veneer on a flat surface and press the box down on it. Make sure the box is centered on the marquetry piece.



**Trim the marquetry to size.** Roll the veneer flat. Pay particular attention to the edges. Use a sharp knife or a veneer saw to trim the sides. The first cuts should be the cross grain sides. Then cut the sides parallel to the grain. Remove the tape from the scene you just glued on. Use the same techniques to attach the other three sides to the box.

### **MARQUETRY BASICS: FINISHING**



Seal the marquetry. Use blonde non-waxed shellac. Put the shellac flakes in a glass bottle, add denatured alcohol (ethanol), and shake up the mixture. As long as there are undissolved flakes on the bottom, you have a saturated solution. When the bottle gets low, either add flakes or ethanol and shake. Work the mixture into the veneer with a soft rag.



Finish the box. Apply a coat of spray lacquer. Wipe on liquid lacquer for any additional coats. Sand with 320-grit sandpaper between each coat. For a shiny finish, use high-gloss lacquer for the final coat. For a dull finish, use a satin lacquer for the final coat. Alternately, apply paste wax and polish it with a rag.

### Materials:

- 4 each 3/8" x 4//8" x 51/2" plywood or MDF (box sides)
- 1/8" x 51/8" x 51/8" veneered paneling or plywood with veneer (box lid)
- Five different colors of veneer of similar thickness that measure 51/2" x 61/4"
- · White wood glue or commercial wood filler
- · Assorted grits of sandpaper up to 320-grit
- Small nails (to assemble box)
- · Spray adhesive
- · Masking tape or application tape
- · Blond, non-waxed shellac flakes
- · Denatured alcohol (ethanol)
- Spray lacquer

### **Materials** & Tools

- Brush-on lacquer of choice
- · Paste wax (optional)
- Contact glue (cement)

### Tools:

- #9 and #4/0 blades or blades of choice
- Cabinet scraper
- · J-roller or wallpaper roller
- Sharp knife or veneer saw
- Assorted brushes and rags (to apply finish)
- Palette knife or similar tool (to force wood filler into gaps)



Smooth out the pieces. Use a cabinet scraper to make the veneer pieces flat and even. Try to work parallel with the grain. Fill any voids with wood filler and scrape it again. Then sand the sides until they are smooth. Start with 120-grit sandpaper, move up to 220-grit, and end with 320-grit.

### **Marquetry Resources**

To learn more about marquetry, visit the American Marquetry Website at:

www.americanmarquetrysociety.com/.
Several local chapters hold regular meetings and visitors are always welcome.

Marquetry Chapters:

Carolinas & Virginia Chapter, meeting sites vary, Tom Pressley, 828-628-9123, tapressley@aol.com

Columbia River Chapter, meetings in Portland, OR, Gerald Laddusaw, 360-256-9389, gdladdusaw@msn.com

Garden State Chapter, meetings in Manalapan, NJ, John Truskowski, 610-222-3829, matjht@comcast.net Lakeland Chapter, meetings in Minneapolis, MN, Ron Bowman, 651-699-0563, marquetarian@aol.com Rockland County Chapter, meetings in Pearl River, NY, Joe Medler, 845-623-9052

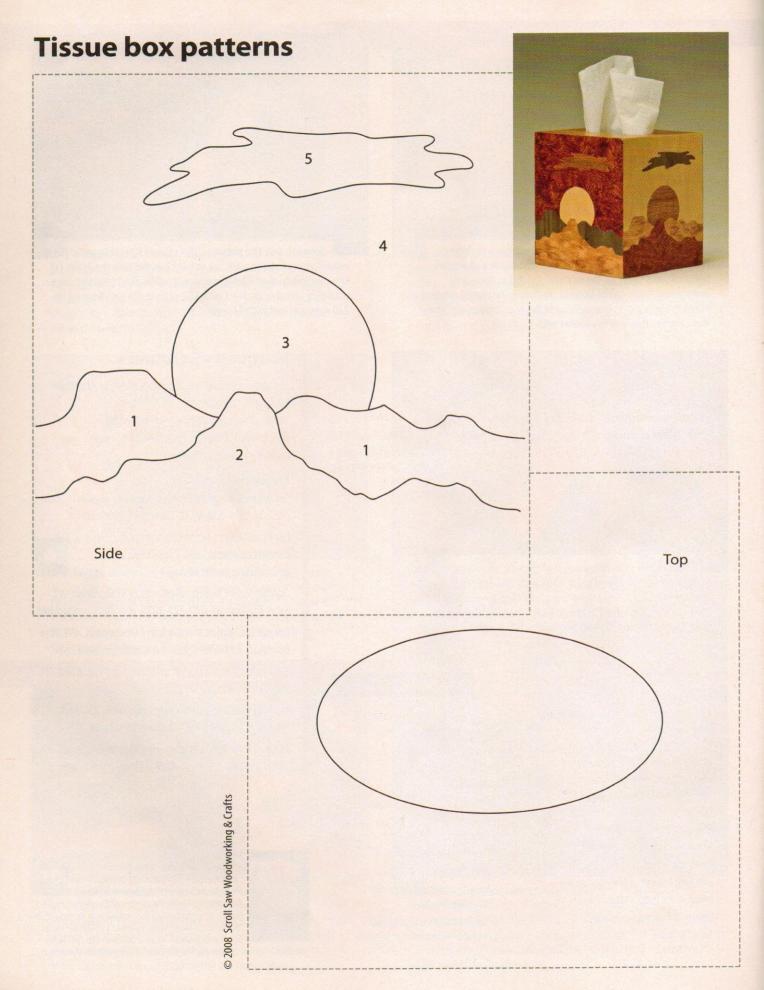
Nor-Cal Chapter, meetings in Sunnyvale, CA, Ken Horner, 408-245-0127, klhorner2@aol.com

Upstate New York Chapter, meetings in Rochester, NY, Sheldon Koch, 585-381-4786, hskoch@juno.com



Ken Horner is a retired organic chemist and computer consultant who lives in Sunnyvale, California, deep in the heart of Silicon Valley. He is the president of the American Marquetry Association. Ken is the author of three Fox Chapel books: Woodworker's Essential Facts, Formulas & Short-Cuts, More Woodworker's Essential Facts, Formulas & Short-Cuts, and Essential Guide to

the Steel Square. Available from www.FoxChapelPublishing.com.



### **Additional Projects and Designs**

Marquetry is a versatile art form that can be framed and used as stand-alone art or used to embellish a number of projects. Although many projects are on a smaller scale, custom furniture is an excellent way to showcase marquetry designs. I've included a few alternate projects and designs for you to practice your new skills.

**Coasters:** Stack the five pieces of veneer and cut the patterns. Separate and mix-and-match the pieces. Glue each picture to a ¼"-thick piece of cherry plywood. After the glue dries, cut around the perimeter of the coaster and apply a varnish or lacquer finish.

**Bookmarks:** Stack two 1½" by 6" pieces of veneer together, cut and separate the pieces. Mix and match the pieces to make the two bookmarks. Enclose them in a clear plastic, such as shelf liner (contact paper) or book binder plastic.

Jewelry Boxes: Glue veneer to inexpensive boxes from a craft store such as Michaels. Size the veneer pieces to your box of choice. Cut the pieces, separate the stack, and mix-and-match the pieces. Shade the petals of the flowers by holding the edge in hot sand. Add the dots and the petal veins with a wood burner.

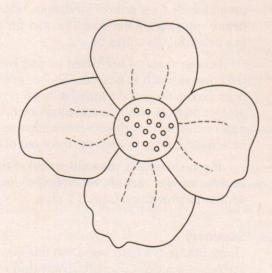


Jewelry Boxes: Ready-made boxes embellished with marquetry make great gifts. By using the pad method, Ken was able to quickly create a host of boxes for his granddaughters.

Coasters: Stack cutting using the pad method makes it easy to create a set of coasters.







© 2008 Scroll Saw Woodworking & Crafts



**Bookmarks:** Contrasting woods combine to make beautiful marguetry bookmarks.

Additional patterns for MARQUETRY BASICS are on the pullout section.

## Osage Orange

Bright yellow hardwood is excellent for scroll sawing

by Kevin Daly

Osage orange is readily recognized by its distinct yellow color. Unfortunately, the vibrant color usually turns a light brown when the wood is exposed to oxygen and sunlight. You can take steps to preserve or at least prolong the vivid yellow color, and despite being a relatively hard wood, it's a joy to cut on the scroll saw.

A relative of the mulberry tree, Osage orange, also known as bodark, horse apple, and bois d'arc, is native to the central United States, but it has been planted throughout the United States and Canada as a hedge row or wind break tree. Most people consider it a shrub, since it tends to stay small, but Osage orange trees can grow up to 60' tall. The sapwood is usually white.

Osage orange is popular with intarsia artists, but most of my scroll work is done in the portrait style. To give my projects more character, I prefer to use hardwoods instead of traditional Baltic birch plywood. I have cut projects in a variety of hardwoods, ranging from spalted mahogany to Brazilian cherry (jatoba).

Osage orange costs between \$6 and \$8 per board foot, depending on the thickness and width of the board. I purchased several slabs from Cutting Edge Wood Works, www.cuttingedgewoodworksonline.com, 254-968-4724.

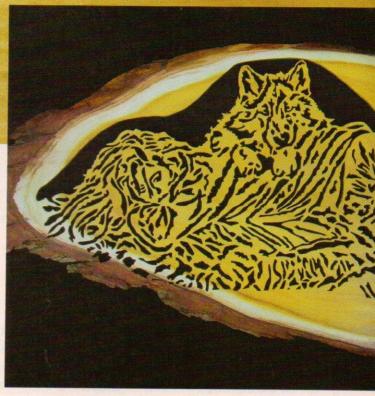
### **Working with Osage orange**

Osage orange is rated at 2040 on the Janka hardness scale. This is close to the tropical hardwood goncalo alves (2160). It is one of the hardest domestic hardwoods, even harder than hickory (1820).

The design I cut required me to drill 251 blade-entry holes. I didn't break a single #63 drill bit. By contrast, when I cut Brazilian cherry, I am lucky to drill 30 holes without breaking a bit.

I was surprised how easy the ¼"-thick wood was to cut on the scroll saw. I have heard horror stories about how difficult Osage orange is to cut, but I found that it cut well with the #1 reverse-tooth blades that I use for 90% of my portraits. I actually had to reduce the speed of my saw so I could control it. It is a bit tougher to cut than mahogany, but much easier than Brazilian cherry.

The hard, straight grain makes it an ideal wood for cutting intricate portraits. I was able to cut the entire



WOLF MAIDEN, designed by Kevin Daly, is cut in a beautiful slab of Osage orange.

portrait without any breakage. While the wood is hard, it sands and shapes well, which makes it a good choice for intarsia artists.

### **Finishing Osage orange**

I recommend sanding the completed project with progressively finer grits of sandpaper, up to 220 grit, before applying a water-based lacquer finish. This results in a beautiful, glass-like finish.

I chose a clear water-based lacquer finish to preserve the color as much as possible. The water-based lacquer does darken the wood a little bit, but it provides some protection from sunlight and ultraviolet (UV) rays. For best results, sand with 400-grit sandpaper between coats of lacquer and try to keep the piece out of direct sunlight.

If you are willing to sacrifice a bit of the color, use an exterior spar varnish, which is designed to provide additional protection from UV rays.

### Summary

Osage orange is a hard wood, but it is easy to cut on the scroll saw. I suggest using relatively thin wood to cut intricate fretwork. The grain promotes a smooth cut without a lot of tear-out or breakage. The bright yellow color may darken over time, but the proper finish can slow or stop this reaction.

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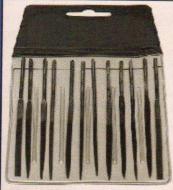
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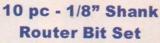
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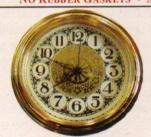
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## **Scroll Saw** Maintenance

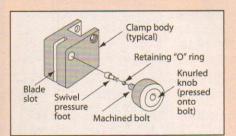
A regular routine of preventative maintenance will prolong the life of your saw and ensure more productive work sessions

### **Maintaining Specific Brands**

### **RBI HAWK SCROLL SAW**

Mark McCandless of Hawk Woodworking Tools said the bladetension release mechanism can loosen with use. Remove the blade and engage the tension lever. If you press down on the end of the scroll saw arm, the tension-release mechanism should not move. If it moves, adjust the small brass set screw on the bottom of the saw arm until the tension-release mechanism stops moving. If the set screw is loose, the tension mechanism will bounce when the saw is operating, causing the blade to slip out of the blade holders.

### **EXCALIBUR SCROLL SAW**



Ray Seymore of Seyco said Excalibur saws have a small pressure foot that swivels on the end of the thumbscrew used to grip the blades. A matching foot on the set screw, opposite the thumbscrew, helps center the blade. By overtightening the blade, these swivels can become polished and will not grip the blade adequately. Use your fingers to tighten the thumbscrew just enough to hold the blade. You can resurface the swivels using a shop-made jig to hold the set screw and thumbscrew, or you can replace the swivels for \$4.80. Visit www.seyco.com for the jig plans or to buy replacement swivels. The swivel feet are held in the screws with O-rings; pull them straight out to replace them.



### **HEGNER SCROLL SAW**

Hanns Derke of Advanced Machinery suggests adding a few drops of light machine oil to both pivot bearings at the rear of the saw. Place a few drops of oil on the bearing bolts just before starting the machine. Be sure to add oil to the bolts on both sides of the saw arm. Normal saw operation will draw the oil into the bearings to help them operate smoothly and last longer. Hanns also suggests loosening blade tension when you are done using your saw. This lessens the rate of metal fatigue and lengthens the life of your saw.

### **DEWALT OR DELTA SCROLL SAW**

Tom Beck of Dewalt said the biggest thing you can do for these saws is to make sure the bolts holding the saw to the bench are tight. This reduces vibration, which can cause extra wear on several parts. He also suggests making a simple zero-clearance auxiliary table by cutting straight into a piece of 1/4"-thick plywood or MDF and clamping the piece to the top of the saw table. This prevents little pieces from getting lost, protects fragile fretwork, and protects your table if you cut metal.

### **Saw Table Maintenance**

One thing all saws have in common is the table. Some saws never require table maintenance. Other saws require table maintenance right out of the box. Most scrollers sand the table with fine-grit sandpaper and rub silicon-free paste wax into the table. Mark McCandless of Hawk Woodworking Tools suggests

positioning a piece of extra-fine grit synthetic steel wool under a palm sander and buffing your table with that. Some scrollers prefer their table to have a bit of resistance and will skip the wax.

### Dealing with dust

Scroll saws produce fine sawdust. Most people vacuum around their saw regularly, but how often do you remove the dust from the moving parts? Some of this dust can be removed with the tiny nozzle on your vacuum, but you may need to blast the area with compressed air to dislodge all of the dust. This dust may not ruin your saw, but removing it will make your saw run more efficiently.

### SCROLLPOLL Based on polled responses from www.scrollsawer.com. How often do you perform preventative maintenance on your saw? 17% Weekly Monthly 37%

Every 6 months

"PM...What's that?"

Yearly

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