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FALL 2009
ISSUE 36

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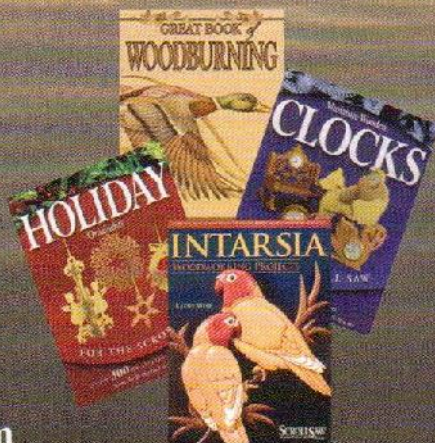
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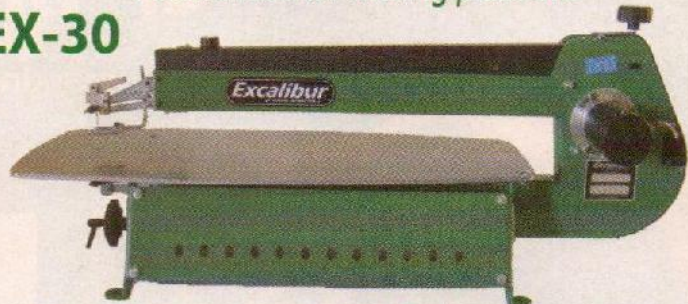
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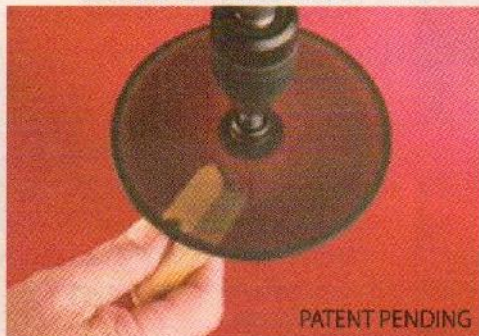
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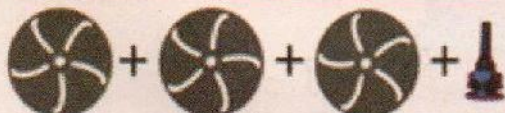
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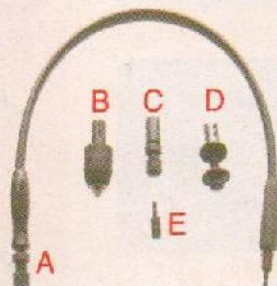
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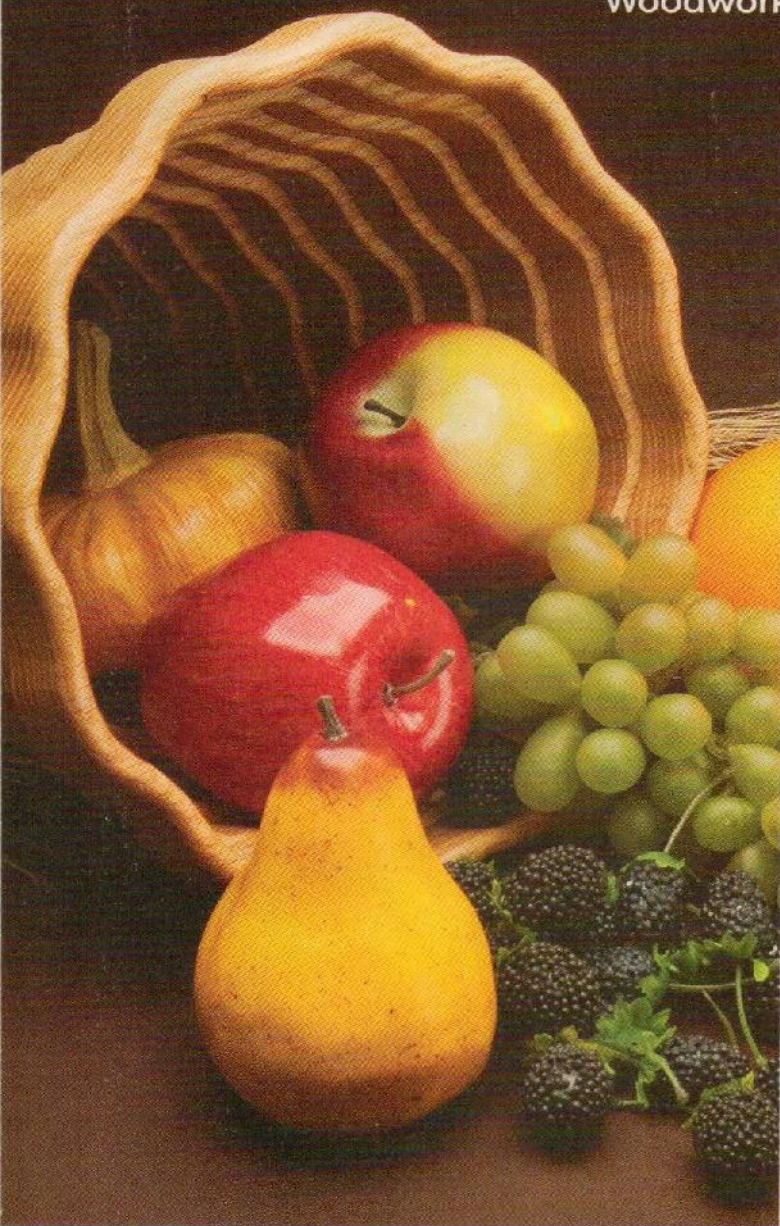
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By Bruce Viney

Transparent puzzle lets you track the marble as you maneuver it through the maze of holes



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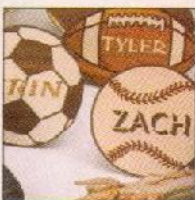
Nine spooky designs make festive pins and magnets or embellish a seasonal sign



40 *Create an Intarsia Scarecrow*

By Judy Gale Roberts

Wood selection and woodburned details bring this favorite fall character to life



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ON THE WEB WWW.SCROLLSAWER.COM

➤ *Convenient Pattern Download*

Making a Simple Cutting Board, pg. 68

Download the adorable pig design as a PDF file for fast and easy pattern printing.

➤ *Bonus Instructional Photos*

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Judy Gale Roberts shares 20 additional photos to help you create your own scarecrow intarsia.

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Use this fun word-art design as a trivet or wall hanging



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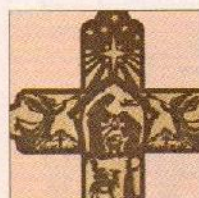
Elegant design displays the temperature with style



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By John A. Nelson

Sweeping lines and chunky pieces make this puzzle easy to cut and assemble



61 *Fretwork Nativity Cross*

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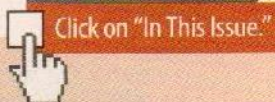


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By Sue Mey

Graceful curves add an element of fun to these quirky clocks

LOG ON TODAY!



➔ *Spiral Cutting Video*

Cutting Elegant Spiral Candlesticks, pg. 46

Exclusive how-to video demonstrates this innovative new two-directional cutting technique.

➔ *Font Download*

Personalized Sports Plaques, pg. 70

Customize any project with this scrollable font courtesy of Sylvia Mendiola.

Additional online features: • [community forum](#) • [scroller galleries](#) • [tips](#)
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By Virgil Merchant

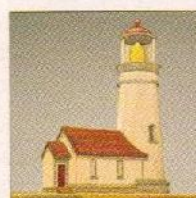
Natural log base highlights this wildlife scene



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Display a bountiful harvest in this cornucopia made from telescoping rings



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By Janette Square

Simple lines and colorful woods capture the tranquil beauty of this seaside scene



68 *Making a Simple Cutting Board*

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Fun and functional design is easy to cut

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26 *Building Fretwork Boxes*

By Kevin Daly

Add scrolled work to box lids with three basic techniques



46 *Cutting Elegant Spiral Candlesticks*

By Bruce Pratt

Use your scroll saw to create the look of lathe-turned spirals



Texas Scroll Saw Picnic

Spending a weekend with other scrollers who share your excitement for the art recharges your passion for scrolling. Two things reinforced my dedication to scrolling at the Texas Scroll Saw Picnic: the work on display on the bragging tables and in the contest, and meeting and talking with folks from around the country.

The event, held April 17 to 18 at the Denton, Tex., Civic Center was sponsored by the Dallas/Fort Worth Scrollers. Aside from the many seminars, scrollers from around the country gathered to chat, show off their work, and compete in the scroll saw competition.

Lyndal Hutchersen, the picnic's promoter, did a great job lining up seminar speakers. While many of the other speakers focused on scrolling topics—Judy Gale Roberts discussed intarsia—I focused on how to take magazine-quality photos. I had a great presentation planned, with a camera, lights, and my laptop so I could show everything on a projector, but it all fell apart when I realized I forgot the adapter I need to hook my Mac laptop up in a PC world.

Regardless, I made it through my seminar and shared a lot of tips and techniques that will hopefully result in some great submissions to our Bragging Pages and encourage future contributors who are apprehensive about their photography skills.

Many people traveled several hours to attend the show. It was fun to chat with members of the *Scroll Saw Woodworking & Crafts* message board (www.scrollsawer.com/forum), many of whom I had never met in person. Most of the forum members, including Bud Hanson and his wife, who drove to the picnic from Ontario, Canada, stopped over to introduce themselves.

I highly recommend you make a point to attend a scroll saw event in your area. These events give you the opportunity to learn from great scrollers and teachers, and let you connect with people who share your love for scrolling. The Midwest Scroll Saw Trade Show in Richland Center, Wis., will be held from July 31 to Aug. 1 (www.midwesttradeshow.com). Look for Shannon Flowers at the *Scroll Saw Woodworking & Crafts* booth there!



Bob Duncan
 Bob Duncan
 Duncan@
 FoxChapelPublishing.com

Ray Seymore, owner of Seyco, congratulates Kathy Graney, the winner of the Excalibur scroll saw. Ray donated the saw which was raffled off at the Texas Scroll Saw Picnic.

SCROLLSAW

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Too Much Intarsia?

I have purchased *SSW&C* for many years. For the first time, I passed up buying the current issue (Summer 2009, Issue #35). It seems that your magazine has changed to Intarsia Magazine. Don't get me wrong, intarsia is very beautiful, but to a scroll saw person like me, it is fretwork that we enjoy cutting. Maybe there should be a separate magazine for intarsia enthusiasts.

Your magazine has inspired me to do many wonderful projects. I work two jobs to make ends meet, but if I have a free minute, I am on the scroll saw. I would like to try intarsia, but it would involve buying more tools and wood that I can't afford right now. One thing I like about scrolling is you can create things out of scrap wood.

Daniel Lynch

Newport Beach, Calif.

Editor's Note: Over the course of a year, we strive to provide a balance of project types that appeal to all of our readers. We are always eager to receive feedback and will continue to refine the magazine based on reader response. Please share your thoughts about the mix of project types we currently feature as well as your definition of fretwork. Does fretwork imply only Victorian-style designs, such as the clock featured on the cover of the last issue, or does it also include portrait-style cutting? Send your comments to editors@scrollsawer.com, SSW&C, 1970 Broad St., East Petersburg, Pa., 17520, or share your thoughts on our message board at www.scrollsawer.com.

Blades for Beginners

I totally disagree with Mr. Herm's suggestion of starting a beginner with used blades. I feel dull tools cause more accidents than sharp tools. It is hard to follow a line with a dull blade. You also have to exert more pressure on the workpiece. Exerting more pressure increases the chances of an accident. If you think a child is old enough to operate the machine, then by all means start him or her with the right tools. Take it slow and keep the sessions short. Treat the child with the respect they deserve. Teach the beginner the proper way to set up the machine and the proper way to use it.

What of the frustration and anger a person feels when the machine won't cut right? If a person can see results and know what the machine can do when it is properly set up, then they are encouraged to go on and do better.

Ralph E. Shartle

Cedar Hills, Tex.

Alan and Simon, students at an activity centre in Scotland, added color to their crabs.

The projects featured in Summer 2009 (Issue #35) of *SSW&C* have been particularly inspiring for me and two young men with learning disabilities (Alan and Simon) to whom I teach woodworking skills.

The three of us made an elephant which is now displayed with pride at the activity centre where I work. I reduced the number of parts and apart from minimal help, the lads did all the cutting, shaping and painting themselves.

The two students have just completed their own crabs, polka dotted with primary colors! They may not be true to life, but they are wonderfully creative art pieces and should earn the lads great praise.

Our next project will be a colored macaw to display at the centre.

Thank you for a great magazine!

Allan Ross

Scotland



2009 Scrolling Events

Jul 31-Aug. 1: WISCONSIN. 2009 Midwest Scroll Saw Trade Show, RICHLAND CENTER (Commons Area of Richland Center High School). Fri. 10am-4pm & Sat. 8am-4pm. Contact Carol & Floyd Hacker, 888-322-2432, www.midwesttradeshow.com.

Aug. 15-16: VICTORIA, AUSTRALIA. Albury-Wodonga Woodcrafters Annual Scroll Saw Weekend, WODONGA (Wodonga Showgrounds, Albury-Wodonga Woodcrafter Inc. shed). Contact J. Vyner, kejuyv@gmail.com or Ed Kilo, 60 24 24 82.



Fox Hunt

Charles Staggs of Rosharon, Tex., and Thom Spencer of Montgomery Village, Md., were randomly drawn from the participants who located the fox in our last issue (Summer 2009, Issue 35). The fox was located on the trunk of the elephant in the photo on page 31.

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 September 1, 2009 to be eligible. *NOTE: The contest fox is an outline drawing that would face left if his feet were on the "ground" (other foxes appearing in SSW&C don't count).*

Send your entry to *SSW&C*, Attn: Find the Fox, 1970 Broad St., East Petersburg, Pa., 17520, or enter online at www.ScrollSawer.com.

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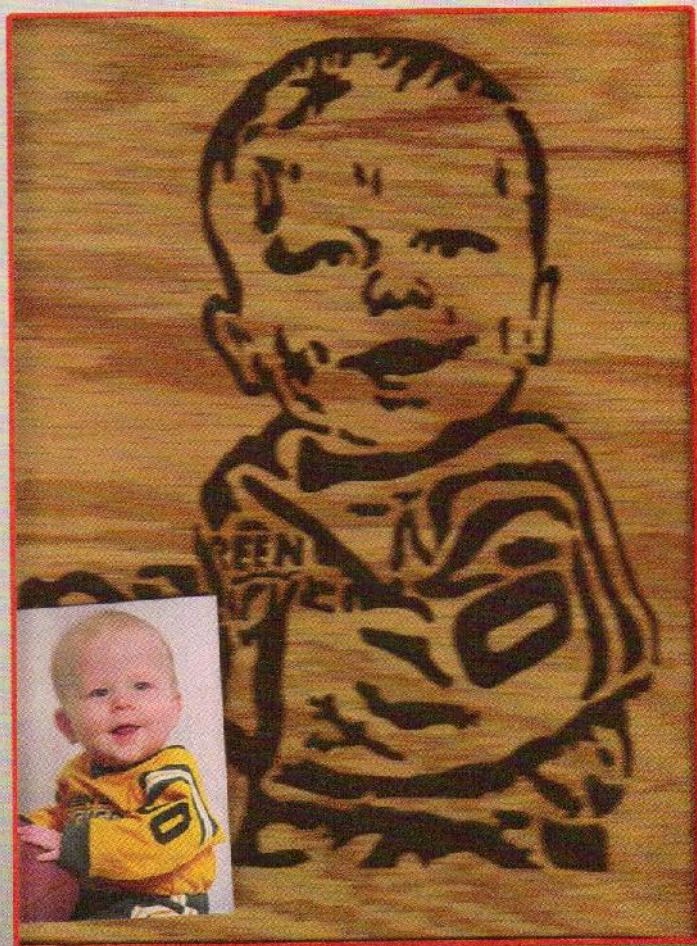
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Beginner Intarsia Challenge

Many beginners find intarsia intimidating. To persuade folks to give it a try, Janette Square, a moderator on the *SSW&C* message board, issued a beginner intarsia challenge.

Scrollers signed up to receive a free tree frog intarsia pattern. Participants were encouraged to ask questions and post in-process photos for feedback from other forum members. In all, 35 scrollers from around the world signed up for the challenge and posted photos of their completed intarsia projects.

Bob Duncan, *SSW&C* technical editor and message board administrator, was so pleased with the group's participation, he initiated a similar challenge to encourage scrollers to try their hand at traditional fretwork. Additional challenges, including fretwork-portrait, segmentation, and word-art styles of cutting, are planned for the future.

To join the fun, visit www.scrollsawer.com/forum. Although you can immediately view all the posts, you must register as a member of the message board to access the free patterns. Membership is free and qualifies you for special early bird sales on Fox Chapel books.

Message Board Welcomes New Members

When MSN announced it would be shutting down its free message boards, called MSN Groups, the Absolutely Free Scroll Saw Pattern (AFSP) group found themselves looking for a new home. After exploring their options, the managers of the group decided to integrate their free patterns and tutorials with the *Scroll Saw Woodworking & Crafts* message board.

Existing members of the *SSW&C* message board were pleased to welcome more than 4,000 new members from the MSN group. In addition to the new members' expertise, AFSP graciously added 11 tutorials on making patterns and fonts, and more than 1,000 free patterns to the wealth of information already available on the message board (www.scrollsawer.com/forum).



Fran Roys (*Fran1942*), of Dallas, Tex., cut this tree frog in response to the intarsia challenge.



This tree frog, created by Dave Snyder (*Plaquerd*), of Belvidere, N.J., was one of 35 entries in the challenge.

Safety-testing Regulations Postponed

After the rash of problems with overseas manufacturing of children's products in the past few years, the federal government established regulations requiring testing of these products. The purpose of the law is to ensure products intended for children don't include toxic lead or other harmful chemicals.

The regulations were written in such a way that many crafters were afraid they would no longer be able to sell their work without undergoing expensive testing.

Under the new law, both large and small manufacturers would be required to submit their products for testing by an independent contractor. The products are to be tested for lead and phthalates (chemicals used to make softer vinyl), and examined for small parts that children could swallow.

The expense of the testing requirements could reasonably be absorbed by large manufacturers, but scrollers, crafters, and woodworkers would be driven out of business by the additional testing costs.

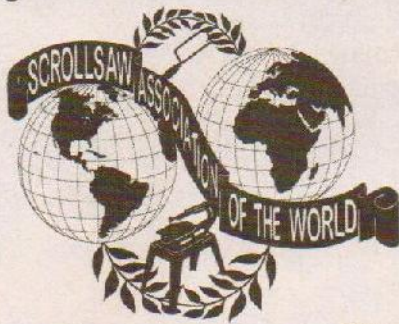
The new testing regulations, which were scheduled to go into effect February 10, 2009, have been postponed until 2010. The postponement allows the U.S. Consumer Product Safety Commission, which enforces the regulations, time to set specific guidelines on when testing is required and how the testing is to be conducted.

The new deadline will allow the government to adjust the requirements for small-volume crafters before the regulations are enforced. Even though formal regulations are not in place, it is the crafter's responsibility to ensure their products do not contain lead or phthalates. For more information, visit <http://tinyurl.com/55yyk3>.

Woodworkers selling toys are granted a one-year reprieve from expensive safety testing.



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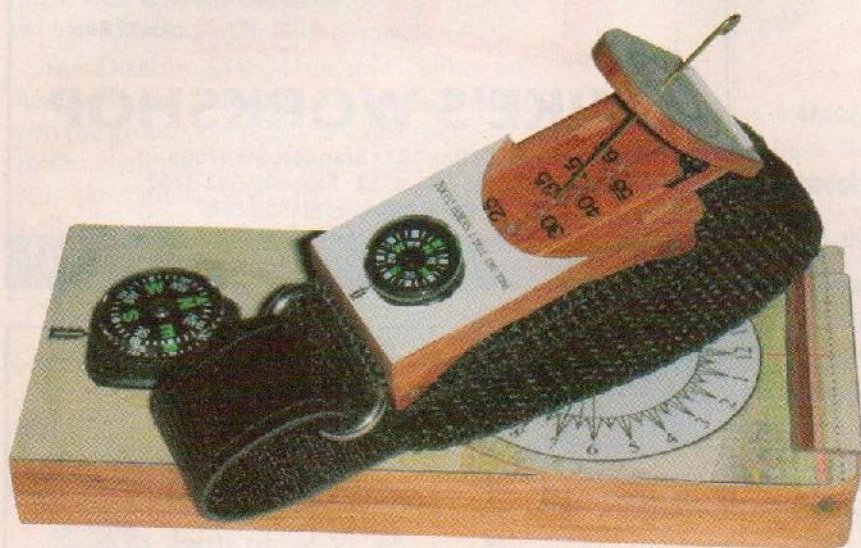
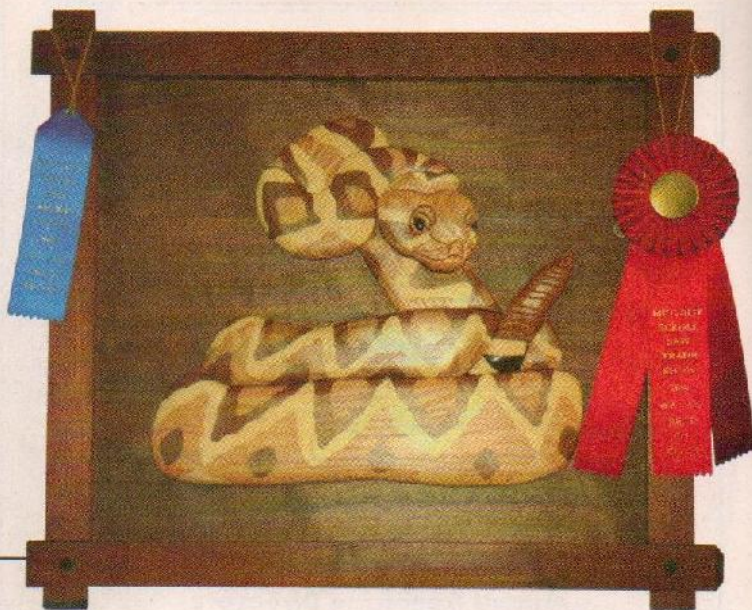
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Award-winning Rattlesnake ▶

Wayne Tesch of Rochester, Minn., created this intarsia rattlesnake from a variety of hardwoods. The piece earned multiple ribbons at the 2008 Midwest Scroll Saw Trade Show. The rattlesnake was created using a pattern from Kathy Wise's *Intarsia Woodworking Projects* (available from Fox Chapel Publishing).

**◀ Sundial Wristwatch**

Roger Strauss of Aliquippa, Pa., reduced the size of the sundial, which appeared in *SSW&C* Summer 2007 (Issue 27), to make a wrist sundial for his son, who is a watch collector. Roger reduced the size of the pattern by 40% and cut the project from mahogany.

Couple's Portrait ▶

Roy Marshall of Camden, Maine, created the pattern for this project using the technique Gary Browning explains in his book, *Scroll Saw Portraits* (from Fox Chapel Publishing). The design, a portrait of Roy's son and daughter-in-law, is cut from ½"-thick oak plywood.



Miniature Spray Booth

To keep dust off of a drying finish, I use a miniature greenhouse that you can purchase at Lowe's, Walmart, or other department stores that sell plants and plant care items.

The greenhouse is 49" tall by 27" wide by 20" deep and comes with two removable wire rack shelves. A large zipper on the side allows easy access. The greenhouse provides a dust-free environment for nearly all of my scroll saw projects. This is a great solution for a shop with limited space. The greenhouses are relatively inexpensive and worth the price.

TOP TIP ✓

Jim Tanner
Jefferson, Ohio

Use a miniature greenhouse as a dust-free area for finishing.



Turn old band saw blades into sawtooth hangers.

Creative Recycling

I'm brand new to woodworking, but I have already mastered the technique of breaking scroll saw and band saw blades. I use broken band saw blades to make sawtooth hangers for my scrolled projects. Cut a 2"-long section from a broken band saw blade and bend it to shape with needle-nose pliers. The metal is easy to drill and you can attach it to your work with small nails or cyanoacrylate glue.

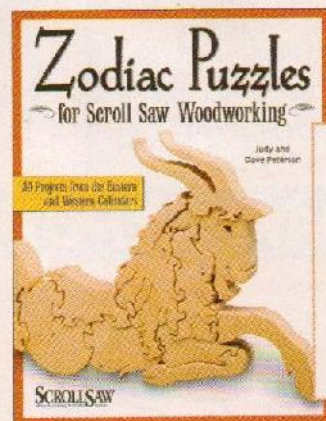
I don't recommend using a shop-made hanger on a piece you plan to sell or give away, but recycled-blade hangers work great for craft show samples and pieces you plan to display in your home or shop.

Tom Young
Plattsmouth, Nebr.

Easy Cleanup

After working in the shop, I found myself completely covered in sawdust. It took me a while to vacuum myself clean so I wouldn't track sawdust into the house. Now, when I work in the shop, I wear a heavy-duty hooded disposable coverall. When I'm done in the shop, I unzip the coverall, am sawdust-free, and am ready to walk into the house. For safety, I tape down any loose material to prevent it from getting caught in the power tools.

Amy Nielsen
Maple Valley, Wash.



TOP TIP in our holiday issue wins an autographed copy of Judy and Dave Peterson's new book, *Zodiac Puzzles for Scroll Saw Woodworking*. Send your tips or techniques to Bob Duncan, 1970 Broad Street, East Petersburg, PA 17520, or Duncan@FoxChapelPublishing.com

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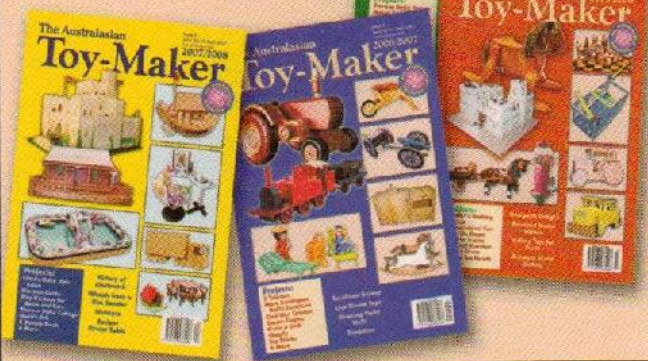
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By Bob Duncan

Dremel Multi-Max

Dremel's Multi-Max combines a triangular sanding pad (perfect for getting into nooks and crannies) with an oscillating saw and scraper system. The tool makes a useful addition to any shop. The Multi-Max sands away a surprising amount of wood quickly and features an adjustable oscillating speed.

The tool makes short work of sanding projects, an aspect of woodworking most scrollers dread. In a shop test, I accidentally sanded through the surface veneer of a piece of Baltic birch plywood while trying to remove a stain. I equipped the Multi-Max with 120-grit sandpaper and set it at the fastest speed. I then held the tool in place over the stain for about 30 seconds. When I checked my progress, I was shocked to see how much wood had been removed. Before I got the Multi-Max, I used a random orbit sander for most of my projects. Now, the first tool I reach for is the Multi-Max. However, I am more cautious about how much pressure I apply to the tool and how fast I have the tool oscillating.

For scrolling work, I use the scraping attachment almost as much as the sanding attachment. The flexible scraper quickly removes stuck-on tape or patterns. Turn the speed down to about 5 and let the scraper do the work for you. Practice using the scraper on scrap wood



The Dremel Multi-Max makes quick work of your sanding projects.

first; if you press too hard, the scraper may dig into the wood a little bit. It took me two attempts on my practice piece to determine the amount of pressure required to remove the pattern without digging into the wood. A quick wipe with mineral spirits removes any trace of the adhesive residue.

The Multi-Max comes with several useful cutting attachments. The offset saw worked beautifully for a quick remodeling project on my oak door frame and the grout cutter made a tiling project much easier. The flexible scraper also works well to remove old bathtub caulk without damaging the tub.

The Dremel Multi-Max, which is available for around \$99 from a number of retailers, including Lowes and Ace Tools, makes a great addition to any shop. You can use it on just about anything, from sanding the most delicate fretwork to removing thick layers of paint when refinishing an old chair.

Alpha Jack Clamps

Alpha Jack Clamps allow you to clamp in a variety of positions.

Alpha Jack Clamps, manufactured by Lowell Thomas Tools Inc., can act as both a jack and a clamp.

Lowell Thomas of Bozeman, Minn., designed the tool when he needed to jack up a part of the sailboat he was working on. He tried to flip an ordinary quick-grip clamp around so he could use the pads to push outward, but it wouldn't work. So, Lowell designed his own. After a few tweaks, the Alpha Jack Clamps were created.

The basic premise of the Alpha Jack Clamp is similar to an ordinary quick-grip clamp: you tighten the clamp using a ratcheting pistol-grip style handle. But the tightening action is where the similarities end.

Most quick-grip clamps and ordinary bar clamps have a relatively shallow throat depth—usually no more than 3". The Alpha Jack Clamps have a 13" throat depth. This allows

you to clamp around stock when working on delicate and intricate projects.

The clamps are built to last. Each clamp weighs about three pounds, so they will not be the first clamp you reach for when gluing up delicate fretwork. But the throat depth lets you use this clamp when no other clamp will work. It also allows you to put the clamp together around already-glued components and quickly disassemble the clamp when the glue is dry.

While the jack action is not specifically useful when it comes to scroll saw work, the clamp can be used to jack a project up or push two objects apart. It also includes a horizontal and vertical level on the fixed end, and the bottom bar includes a ruler calibrated in inches and millimeters.

Alpha Jack Clamps are available for \$39.99 each plus shipping and handling. If you purchase two clamps, the shipping and handling is free. For more information, visit www.jackclamp.com.

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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 $\frac{1}{8}$ " 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.



The cutting-through method is also popular. Saw through a piece of scrap wood at least $\frac{3}{4}$ "-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 $\frac{1}{4}$ "-thick piece of scrap and cut about $\frac{1}{16}$ " 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.



Call for Entries!

BEST PROJECT DESIGN CONTEST 2009

SCROLL SAW WOODWORKING & CRAFTS

Show off your creativity and craftsmanship. Compete for valuable prizes and the chance to have your work featured in the pages of *Scroll Saw Woodworking & Crafts*.

We're looking for talented individuals to share their original creations. We are pleased to announce the 2009 contest will be divided into categories. You may enter as many projects as you wish, but entries must be your original designs. Projects cannot have been previously entered in a SSW&C sponsored contest.

One Editor's Choice will be selected from each category. Finalists from each category will be posted on the SSW&C website for readers to select one overall People's Choice winner. Depending on the number of

entries, it may not be possible to have all entries available for people's choice voting.

Entries will be evaluated on originality of design, quality of construction, and aesthetic appeal. SSW&C staff reserves the right to determine the proper category for all entries.

Entry deadline is December 31, 2009.

Categories include:

- **Traditional Fretwork**
- **Intarsia and Segmentation**
- **Fretwork Portrait**
- **General (puzzles, boxes, etc.)**
- **Compound**

Artists retain all copyrights, but consent to having their project published in SSW&C.

CONTEST RULES:

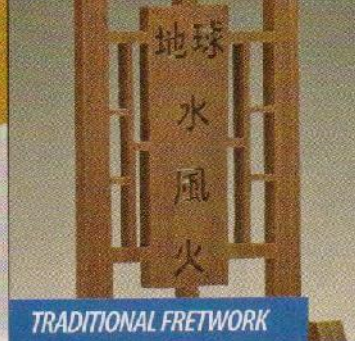
- Patterns must be your original design. Designs cannot be altered versions of existing patterns by another designer.
- Projects must feature a significant amount of scrolling. (Projects may include other common woodworking tools in the creation, for example: router, table saw, band saw.)

- Projects must be able to be made from commonly available wood.
- Projects cannot have been previously entered in a SSW&C sponsored contest.

- TO ENTER:**
Submit the following information:
- Category of entry

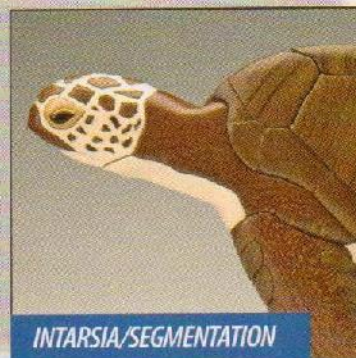
- 1 or 2 clear photographs of your work
- Information on the project size and types of wood used
- Information on special construction or finishing methods
- Your name, address, phone number and e-mail address

SUBMIT ENTRIES TO: **Best Project Design Contest** ■ **Scroll Saw Woodworking & Crafts**
1970 Broad Street, East Petersburg, Pa., 17520 ■ Or email: Editors@ScrollSawer.com



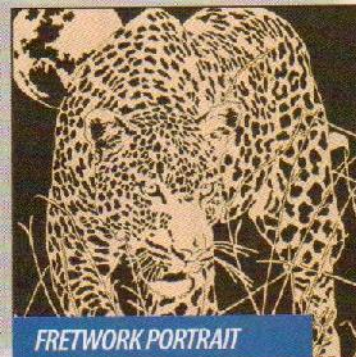
TRADITIONAL FRETWORK

"Earth, Wind, Fire, Water" by Pete DeFrancisco



INTARSIA/SEGMENTATION

"Green Sea Turtle" by Tim Rogers



FRETWORK PORTRAIT

"Stalking Leopard" by Kerry Hallam



GENERAL

"Ribbons and Bows Box" by Carole Rothman



COMPOUND

"Block and Trowel" by Robert Webster

Creating a Circle of Friends



**Use this fun word-art design
as a trivet or wall hanging**

By Toni Burghout Cut by Dale Helgerson

I created "Circle of Friends" to celebrate the people who share their lives with me. A friend lends support through good times and bad, and enriches your world through their acquaintance.

Social networking sites, forums, and messengers keep us close when we can't be together. Although I have not met many of my virtual friends in person, I am charmed by their written words and enjoy sharing a small part of my day with them. Since 2005, I have been a member of the *Scroll Saw Woodworking & Crafts* forum (www.scrollsawer.com), where many of

the regulars share my passion for scrolling and provide inspiration for me.

You can cut the design with or without the border. I recommend beginners use 1"-thick stock to add strength to the delicate fretwork.

Display the project on its own or add a backing board to support the fretwork and provide contrast. Stack cut several pieces of thin stock, mount the fretwork in a frame for a shadowbox effect, and present the completed projects to the people in your circle of friends.

Circle of friends pattern



© 2009 Scroll Saw Woodworking & Crafts

Materials:

- ¼" to 1" x 8" x 8" Baltic birch plywood or hardwood of choice
- ¼" x 8" x 8" Baltic birch plywood or hardwood of choice (optional backing board)
- Danish oil or finish of choice
- Assorted grits of sandpaper
- Wood glue (optional)

Materials & Tools

Tools:

- #3 reverse-tooth blades or blades of choice
- Drill with ¼"-diameter blades



Toni Burghout lives in Orillia, Ont., Canada. She and Sue Chrestensen are the owners of Chrestensen-Burghout designs. Visit their website at www.chrestensenburghoutdesigns.com.

Floral Fretwork Thermometer

Elegant design displays the temperature with style

By John A. Nelson

Cut by Dale Helgerson

Curling vines and delicate foliage highlight this functional thermometer display. Enlarge the pattern, leave the center solid, and overlay letters down the middle to create a decorative welcome sign. Thermometer inserts can be purchased separately or you can pick up inexpensive thermometers from a discount store and disassemble them for the parts you need.

Stack cut the design from $\frac{1}{4}$ "-thick wood to quickly produce presents for friends and family. Use Baltic birch plywood or a colorful hardwood selected to match the décor of your room.

Leave the center solid or cut the rectangle as indicated on the pattern depending on the style of thermometer insert you choose. Cut the center last to provide stability while cutting the fretwork. After cutting the project, apply a clear finish and glue the thermometer in place.

Materials & Tools

Materials:

- $\frac{1}{4}$ " x $4\frac{1}{2}$ " x $10\frac{1}{2}$ " cherry or wood of choice
- Clear finish of choice
- Thermometer card

Tools:

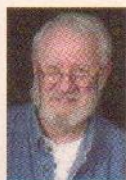
- #3 reverse-tooth blades or blades of choice
- Drill with $\frac{1}{16}$ " and $\frac{3}{16}$ "-diameter bits
- Brushes to apply finish (optional)

SPECIAL SOURCES:

Thermometer cards (item #4003) are available for \$2.49 each + s&h from Meisel Hardware Specialties. Call 800-441-9870 or visit www.meiselwoodhobby.com.



Pattern for the **FLORAL FRETWORK THERMOMETER** is in the pullout section.



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

Marble Maze Cube

Transparent puzzle lets you track the marble as you maneuver it through the maze of holes

By Bruce Viney
Cut by Ben Fink



This puzzle is a cube composed of 16 interlocking panels that form 27 individual compartments. There is a hole in each compartment wall. The object of the puzzle is to drop the ball in the center hole in the top panel and maneuver it through the maze until it exits the center hole in the bottom panel. Only certain holes will allow the ball to pass through, and because the puzzle looks identical from all sides, it's easy to get confused and start maneuvering the ball in the wrong direction. To make the maze even more

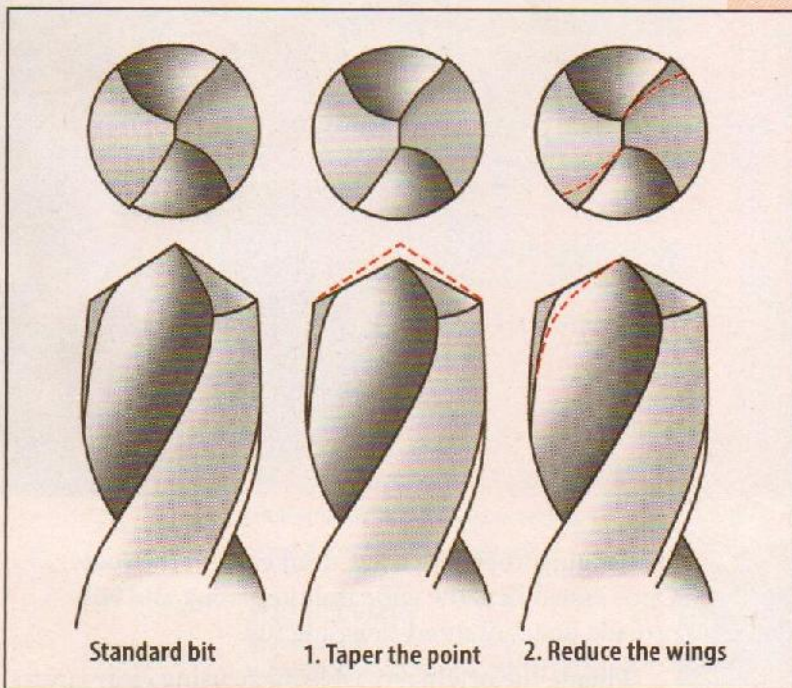
challenging, there are a few dead ends in the route. Once assembled, the cube is quite strong and will provide hours of mind-boggling fun.

I made the original marble maze using clear covers from CD cases. The plastic cases are brittle, but I like the idea of recycling. For a sturdier puzzle, use clear acrylic. The pattern is drawn with the slots sized to fit typical $\frac{1}{16}$ " (2mm)-thick acrylic. You may need to adjust the width of the slots depending on the material you choose. The panels should fit together tightly.

I use a $\frac{3}{8}$ " (10mm)-diameter ball, but you can use other sizes. Adjust the size of the holes to fit the ball or marble you choose. The ball will fit through the yellow holes on the pattern, but not through the white holes.

I recommend a blade with 25 teeth-per-inch (tpi). If the teeth are bigger, the plastic may crack. If the teeth are smaller, the plastic could melt back together. Make practice cuts on a piece of scrap material. Cut slowly and pause often to let the plastic cool. If you cut too fast, the friction from the blade heats the plastic, causing the cut to melt back together. You can use a miniature table saw to make the straight cuts. Again, push the plastic through the saw slowly. Gently file the cut edges or pass a propane torch lightly over the edges to smooth any rough spots.

Start by cutting the 12 panels. Attach the patterns to the acrylic with spray adhesive. Two of the panels will be divided into strips after the holes are drilled. Strive to cut smooth straight lines. Cut outside the lines and gently hand sand them straight if necessary. Remember to be gentle when drilling and always drill into a wood backing board. I suggest using a drill bit designed to drill acrylic and plastic. Some manufacturers make drill bits for plastics, but you can reshape a standard drill bit quickly and easily.



Drilling plastic requires a different shape of drill bit. A standard drill bit has a sharply tapered point. Start by reducing the taper to around 135°. Then grind away the hooked wings of the spirals.

Drilling Acrylic

By Bob Duncan

Clear acrylic chips and cracks easily when drilled with ordinary drill bits. While special bits for Plexiglas and plastics are available, it only takes a few minutes to modify a standard drill bit.

Manufacturers usually sharpen drill bits to a 118° angle from wing to wing. This angle, and the overall shape of the drill bit's wings, allows you to drill quickly. The hooked shape of the wings pulls the drill bit down through the material being drilled. The acrylic or plastic cracks when the tip of the bit clears the bottom and quickly pulls the rest of the bit through the material.

To prevent the acrylic from cracking, modify the drill bit by flattening the tip to increase the overall angle and reshaping the wings.

Special thanks to Rick Faust, "KTownScroller" on the SSW&C message board, for sharing his expertise in machining plastics.

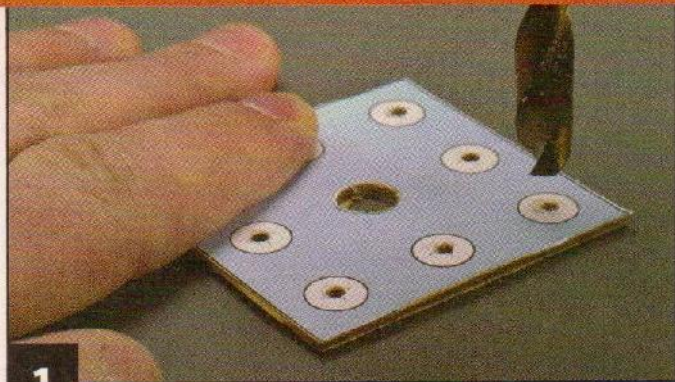


Flatten the tip of the drill bit. If you have a Drill Doctor, set the sharpener to the highest angle; I set my sharpener to 135°. Follow the manufacturer's instructions to resharpen the bit at this angle. Alternatively, flatten the tip with a bench grinder or a grinding stone in a rotary power carver.



Reshape the drill bit's wings. I use a small grinding stone in a rotary power carver. The wings on a standard drill bit angle out from the tip and form a sharp point. Grind away the sharp point and reduce the angle of the leading wings.

MAZE: PREPARING THE PIECES

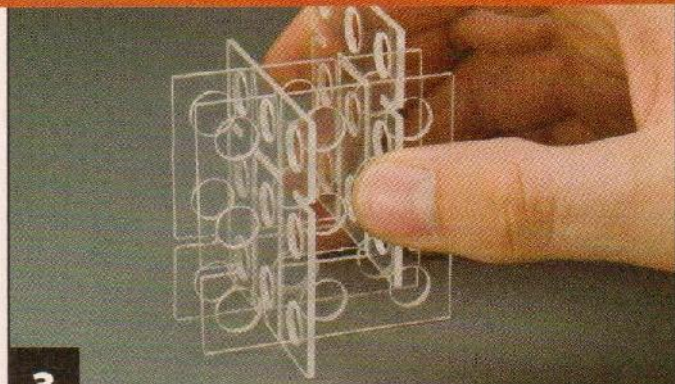


1 Drill the holes. Drill $\frac{1}{8}$ " (3mm)-diameter pilot holes. Then re-drill the holes to the final sizes with modified twist bits. Run the drill at a high speed, but feed the bit into the material slowly, apply only a little pressure, and drill into a wooden backing board. Drill $\frac{1}{16}$ "-diameter blade-entry holes where required for the slots.

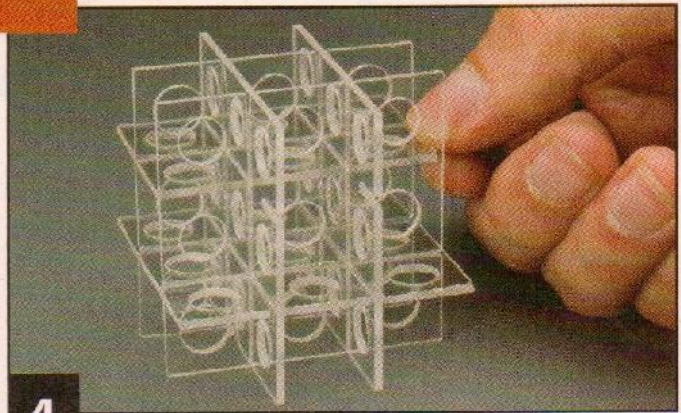


2 Make the remaining cuts. Cut a practice slot in a piece of scrap to make sure the slots are sized properly for your material. Cut the inner strips apart and cut all of the slots. Cut slowly and carefully so the plastic does not melt back together. Smooth any rough edges with a file or propane torch.

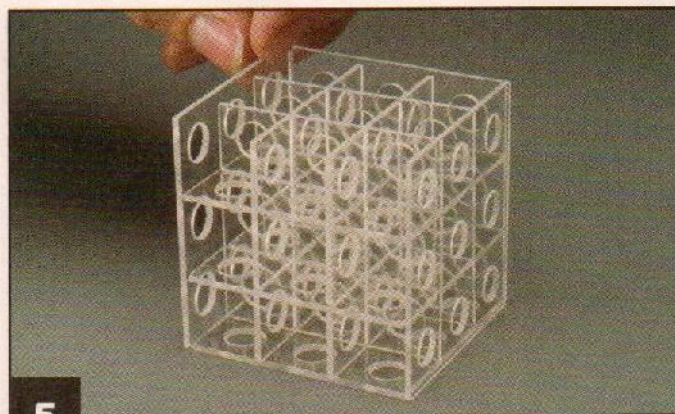
MAZE: ASSEMBLING THE CUBE



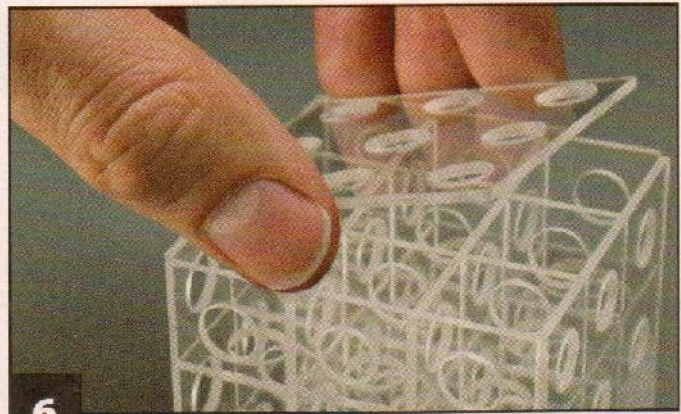
3 Assemble the main inner panels. Use the notations on the patterns and the assembly diagram. Slide the left and right inner panels in place over the slots in the front and back inner panels. These four panels form the skeleton of the cube and stand upright when assembled.



4 Add the inner strips. Use the notations on the pattern and assembly diagram as a guide. The top back, top front, bottom left, and bottom right strips fit into the notches in the inner panel assembly. The top center strip and bottom center strip fit into the slots in the inner panel assembly.

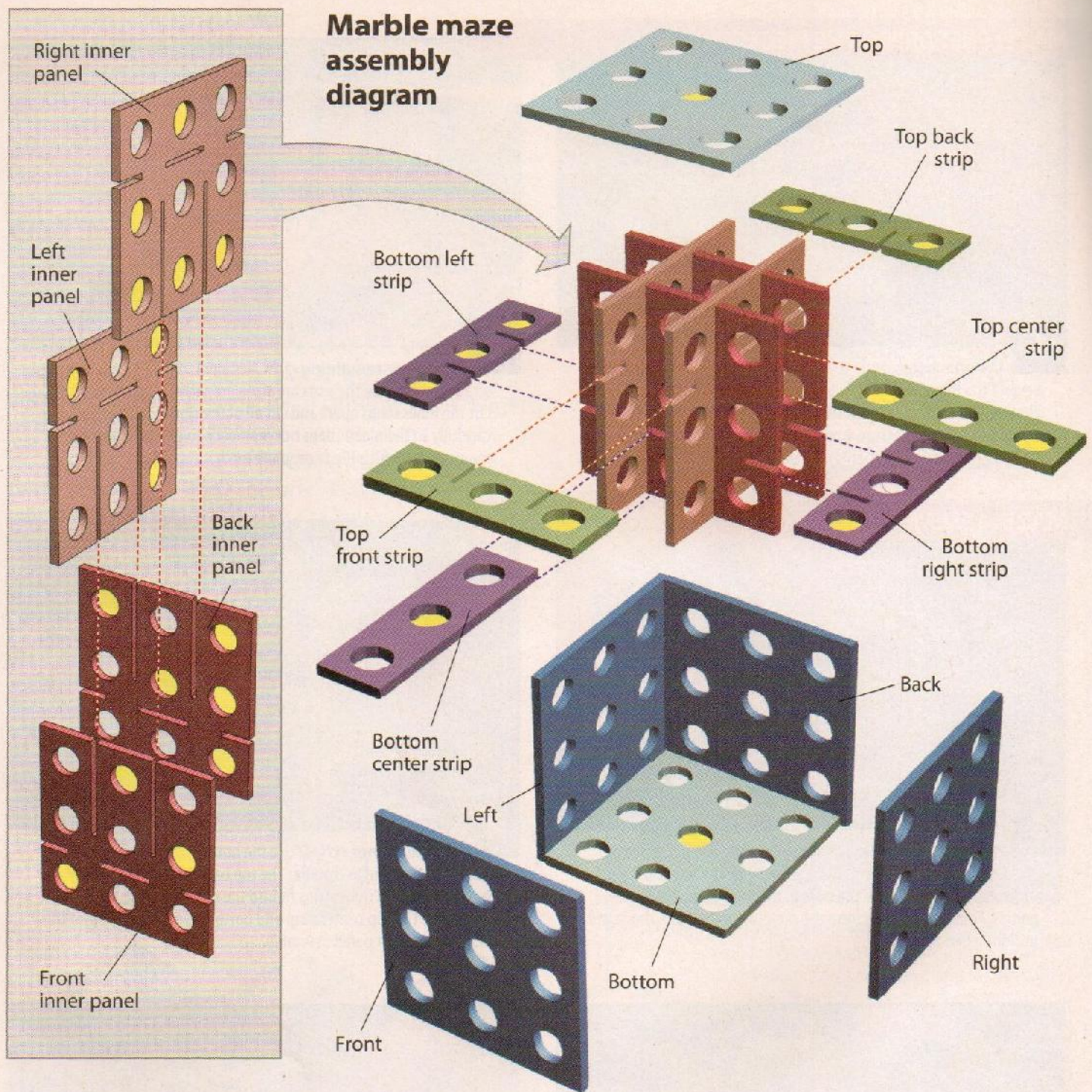


5 Attach the sides. The four side panels do not contain any holes large enough for the ball to pass through. Use model cement or Duro plastic epoxy to glue the outer panels to each other as well as the edges of the inner panel assembly. One edge of each of these four panels overlaps the edge of one adjacent panel.



6 Attach the top and bottom. The top and bottom fit inside the square created by the four outer panels. Glue the top and bottom to the side panels and the edges of the inner panel assembly. Allow the glue to dry and test your problem-solving skills. Challenge family members to beat your best time.

Marble maze assembly diagram



Materials:

- 4 each $\frac{1}{16}$ " (2mm) x $2\frac{1}{4}$ " (57mm) x $2\frac{1}{32}$ " (58mm) clear acrylic (front, back, left, right panels)
- 8 each $\frac{1}{16}$ " (2mm) x $2\frac{3}{16}$ " (56mm) x $2\frac{3}{16}$ " (56mm) clear acrylic (top, bottom, inner panels, inner strips)
- Model cement or Duro plastic epoxy
- $\frac{3}{8}$ " (10mm)-diameter steel ball or marble

Tools:

- Blades with 25 tpi, such as Flying Dutchman Penguin Silver #3, Olson #3 double-tooth blades, or Pegas #3 skip-tooth blades
- Drill press
- $\frac{1}{16}$ " (2mm)-, $\frac{1}{8}$ " (3mm)-, $\frac{3}{8}$ " (10mm)-, and $\frac{27}{64}$ " (10.5 mm)-diameter twist drill bits
- File or propane torch (optional)

Materials & Tools

SPECIAL SOURCES:

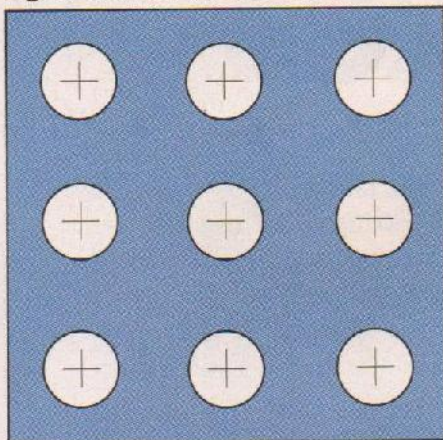
$\frac{1}{16}$ " (2mm)-thick clear acrylic is available from Sloan's Woodshop, 888-615-9663, www.sloanswoodshop.com

$\frac{3}{8}$ " (10mm)-diameter steel balls are available as slingshot ammunition at most sporting goods and gun stores. $\frac{3}{8}$ " (10mm)- and $\frac{27}{64}$ " (10.5 mm)-diameter twist drill bits are available in most hardware stores.

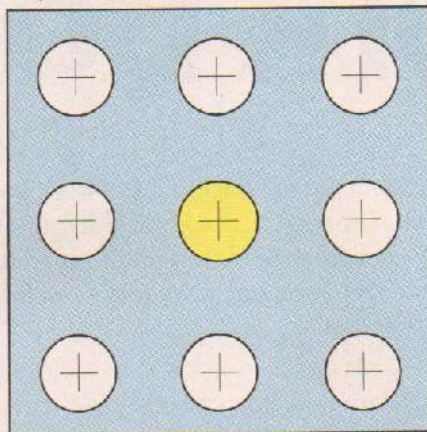
Marble maze cube patterns

Outer panels

Right, left, front, back - cut 4



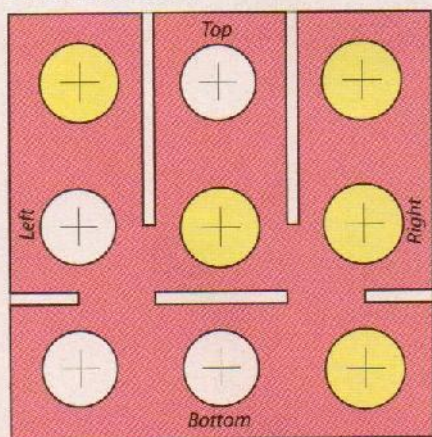
Top and bottom - cut 2



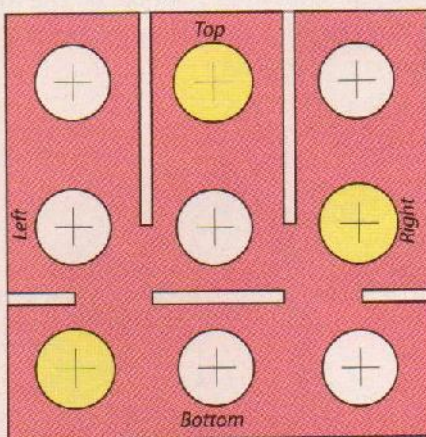
All yellow holes are $\frac{27}{64}$ " (10.5mm).
All white holes are $\frac{3}{8}$ " (10mm).

Inner panels

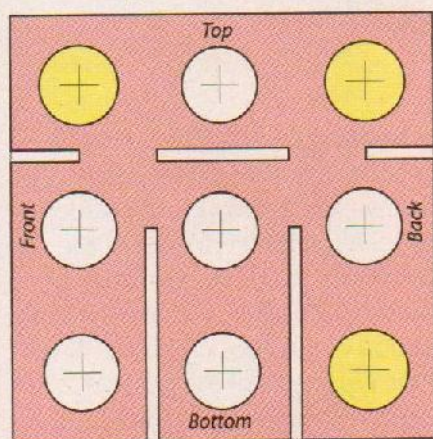
Back inner panel



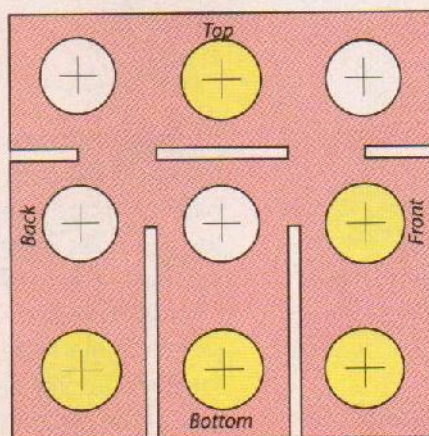
Front inner panel



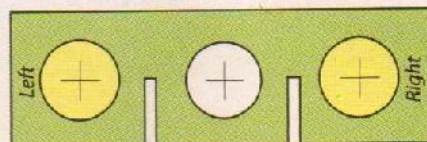
Left inner panel



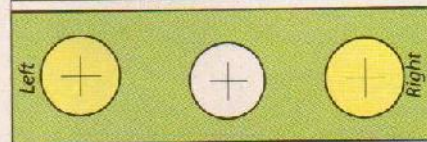
Right inner panel



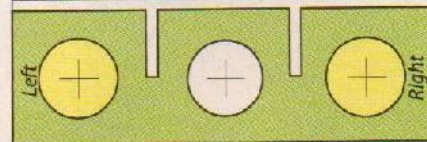
Inner strips



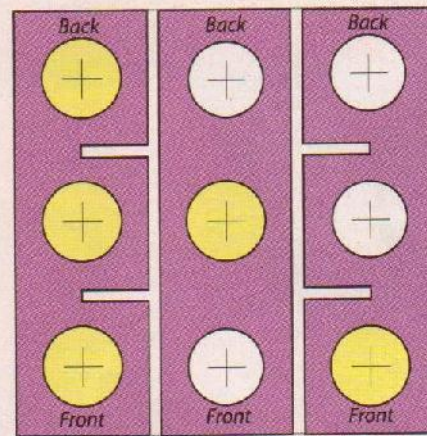
Top back strip



Top center strip



Top front strip



Bottom left strip

Bottom center strip

Bottom right strip



Bruce Viney, of Washington, England, enjoys designing and making puzzles and puzzle boxes. He provides a number of free patterns for puzzle boxes of various complexities on his website at www.homemadepuzzles.co.uk.

Building Fretwork Boxes

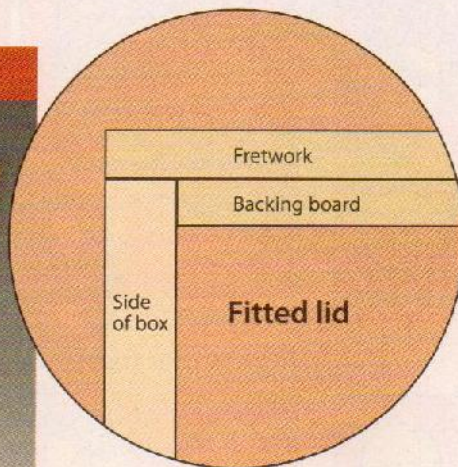
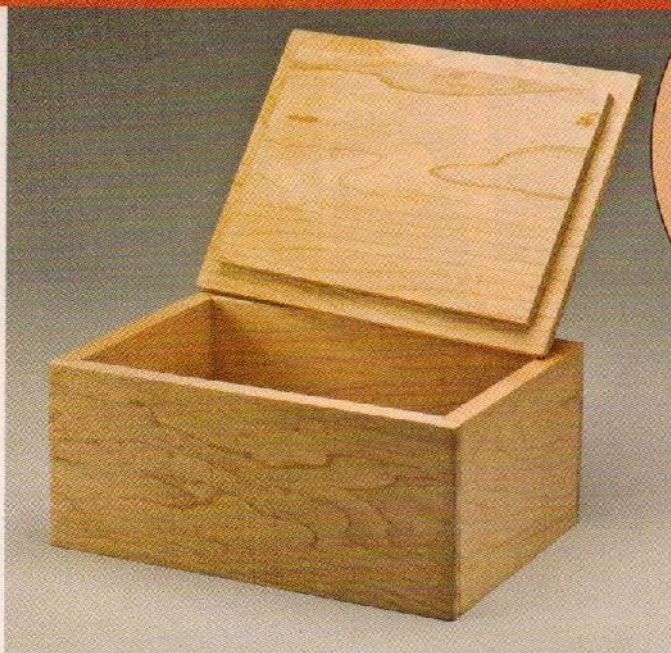
Add scrolled work to box lids with three basic techniques

By Kevin Daly

When I started scrolling fretwork portraits, I incorporated them into the lids of boxes. I had no idea portrait-style cuttings were usually framed. These lid construction methods were developed specifically for portrait-style fretwork, but work just as well for traditional fretwork, segmentation, or intarsia.

This article presents three simple techniques for constructing fretwork lids. You can stack cut three fretwork portraits at the same time and construct all three box styles. The size of the main box varies depending on the style of the lid, but the boxes all use the same size fretwork and are all made using a simple lap-joint construction. The type of lid dictates the dimensions of the box. Instructions are provided for constructing a box sized for a fitted lid. To build a box for a framed lid, follow the same steps, but adjust the dimensions to match your completed lid. The outside dimensions of the box should match the outside dimensions of the completed lid.

MAKING A FITTED LID



Step A1: Cut the material to size. The stock for the fretwork portrait is $\frac{1}{4}$ " by 5" by 7". The backing board is $\frac{1}{4}$ " by $6\frac{3}{16}$ " by $4\frac{3}{16}$ ". Attach the pattern to the fretwork stock, drill the blade-entry holes, and cut the fretwork.

Step A2: Attach the backing board. Paint one side of the backing board and allow the paint to dry. Center the backing board over the inverted fretwork and position the box sides on top of lid. Align the perimeter of the box sides and the fretwork and center the backing board between the four sides. Carefully remove the box sides and mark the location of the backing board. Apply Aleene's tacky glue to the perimeter of the painted side of the backing board. You do not want the glue to squeeze out through the cut fretwork. Align the backing board with the marks and clamp the backing board to the fretwork until the glue dries.



Use any fretwork pattern to make three distinctly different box lids.

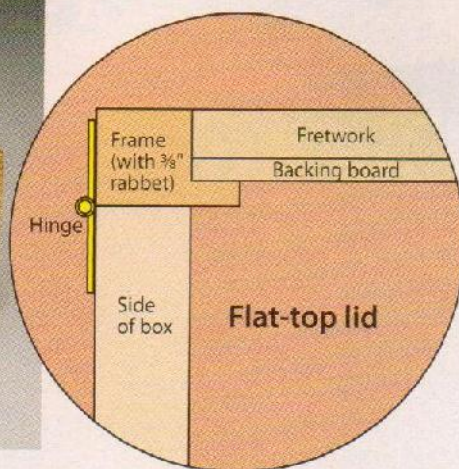
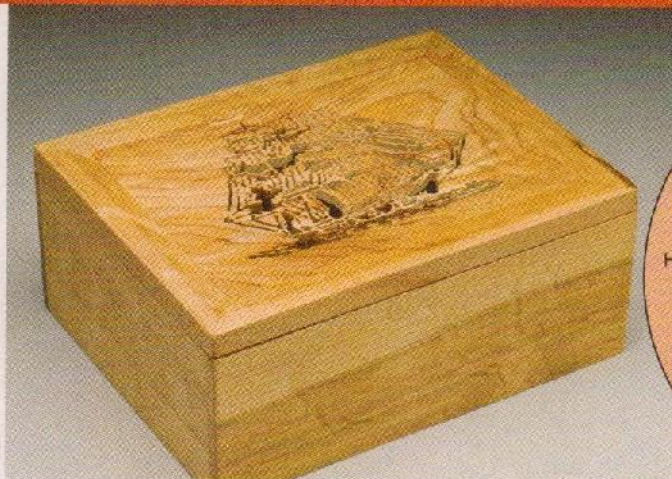
Making Framed Lids

The flat-top lid and the recessed lid both use standard picture-frame construction techniques. I attach the framed lids to the box sides with hinges. The dimensions of the framed lid determine the dimensions of the box sides, so make the lid before constructing the box sides. I use a backing board in the framed lids to support the fragile fretwork. If you choose a simple pattern without fragile sections, you can eliminate the backing board.



Use hinges to attach the framed lid to the box sides.

MAKING A FLAT-TOP LID



▲ Step B1: Cut the rabbets in the frame stock. The rabbet should be $\frac{1}{4}$ " wide. The depth of the rabbet is equal to the thickness of the fretwork stock and the backing board. I use $\frac{1}{4}$ "-thick stock for the fretwork and a $\frac{1}{8}$ "-thick backing board, so I cut a $\frac{3}{8}$ "-deep rabbet. Use a router table or table saw.

Step B2: Cut the frame stock to size. Make the frame opening slightly smaller than the dimensions of the fretwork. You will sand the edges of the fretwork for a perfect fit. Cut a 45° miter with the long end opposite the rabbet. Measure $4\frac{15}{16}$ " down along the rabbet and make a mark. Cut another 45° miter at this mark. Make sure the side opposite the rabbet is longer than the side closest to the rabbet. Cut another piece identical to this piece. Then cut two pieces that are $6\frac{15}{16}$ " long across the rabbet with 45° miters on each end.



▲ Step B3: Dry assemble the lid. Paint one side of the backing board. When dry, glue and clamp the fretwork and backing board together with tacky glue and let the glue dry. Keep the glue around the perimeter so it doesn't squeeze out through the fretwork. Dry assemble the frame pieces around the fretwork assembly. Sand the edges of the fretwork assembly with a disc sander so the fretwork fits snugly inside the frame and doesn't interfere with the miter joints.

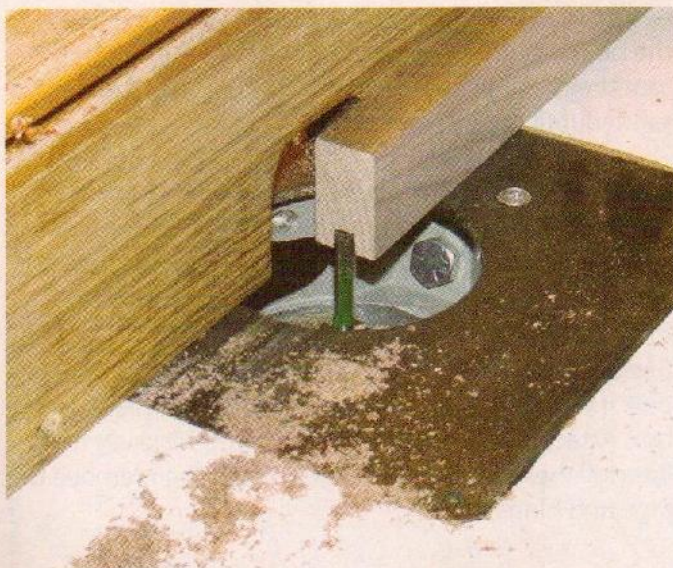
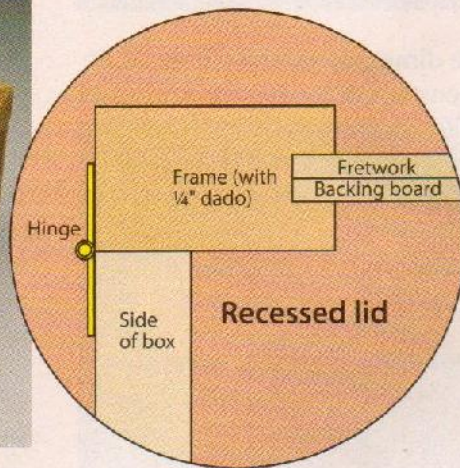
Step B4: Glue the frame together. Spread wood glue along the rabbets and the miter cuts. Invert the fretwork assembly and place the frame sections in position. Clamp the frame in place and allow the glue to dry.

TIP ATTACHING HINGES

For perfectly aligned hinges, clamp the lid and box sides together. Then use masking tape to temporarily hold the hinge hardware in place. Smooth the tape down over the hinges and drill the pilot holes right through the tape.



MAKING A RECESSED LID



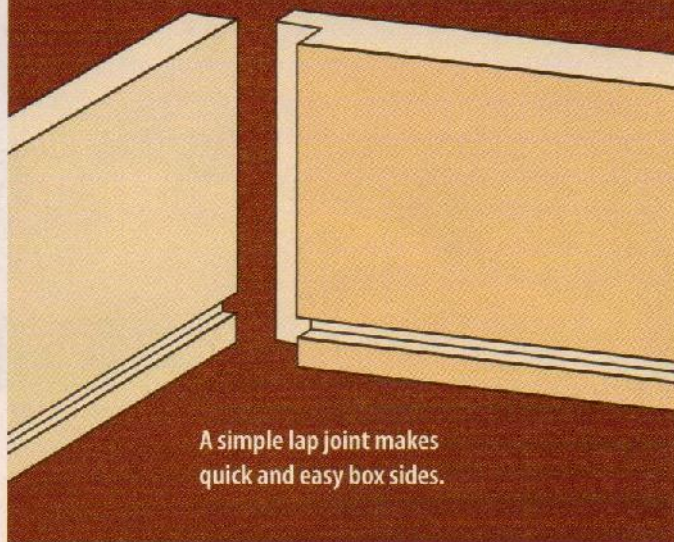
▲ Step C1: Cut the dados in the frame stock.

The width of the dado is equal to the thickness of the fretwork and the backing board. I use $\frac{1}{8}$ "-thick stock for both, so I use a $\frac{1}{4}$ "-diameter straight router bit to cut the $\frac{1}{4}$ "-deep dado down the center of the frame stock.

Step C2: Cut the frame stock to size. Make the inside dimensions of the lid frame approximately $\frac{1}{2}$ " smaller than the fretwork stock. Cut a 45° miter with the long end opposite the dado. Measure $4\frac{1}{2}$ " down along the dado and make a mark. Cut another 45° miter at this mark. Make sure the side opposite the dado is longer than the side with the dado. Cut another piece identical to this piece. Then cut two pieces that are $6\frac{1}{2}$ " long across the dado with 45° miters on each end.

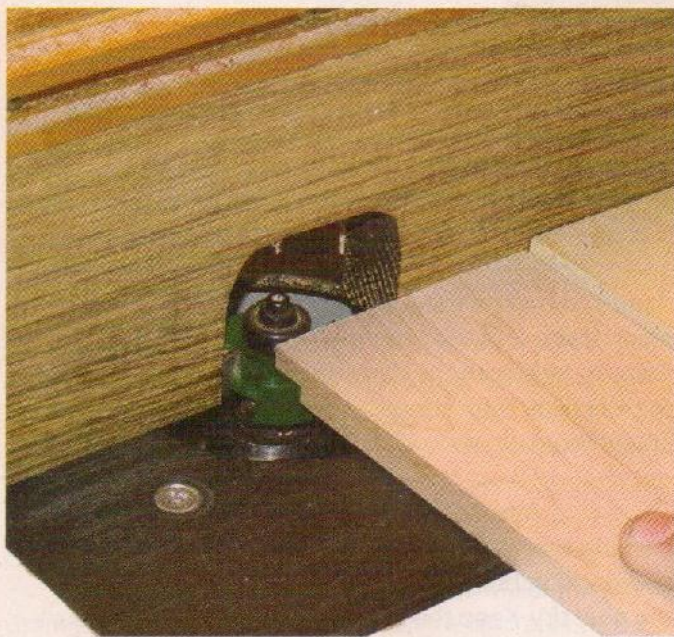
Step C3: Assemble the lid. Paint one side of the backing board. When dry, glue and clamp the fretwork and backing board together with tacky glue and let the glue dry. Keep the glue around the perimeter so it doesn't squeeze out through the fretwork. Dry assemble the frame pieces around the fretwork assembly. Gently sand the edges of the fretwork assembly with a disc sander if necessary. Spread wood glue along the miter joints and assemble three sides of the frame. Slide the fretwork assembly into the dado. Assemble the fourth side of the frame and clamp the frame in place until the glue dries.

MAKING THE BOX SIDES



A simple lap joint makes quick and easy box sides.

Step 1: Determine the dimensions. The pattern is 5" by 7" so the outside dimensions of the box for a fitted lid should also be 5" by 7". Cut two long sides to a length of 7". The short sides will be 5" long, less the material left after cutting the rabbets on the long sides ($\frac{3}{8}$ " each for a total of $\frac{3}{4}$ "), which equals 4 $\frac{3}{4}$ " long. If you are making a framed lid, the outside dimensions of the box should equal the outside dimensions of the frame.



Step 2: Cut the rabbets. Cut the rabbets as wide as the thickness of the material ($\frac{3}{8}$ " wide) and as deep as half the thickness of the material ($\frac{3}{16}$ " deep). I use a rabbet bit in a router table, but you could use a table saw. Always clamp a piece of scrap wood to the side of your stock to prevent the router bit from chipping out at the end of the rabbet.



Step 3: Cut the dado for the bottom. Set the table saw fence $\frac{1}{4}$ " away from the blade and adjust the blade so it cuts a $\frac{1}{4}$ "-deep groove. You could also use a $\frac{1}{8}$ "-diameter straight-cutting router bit in a router table. The box bottom fits loosely inside the dado groove when the sides are assembled. Measure the inside dimensions of the assembled box sides and add $\frac{3}{8}$ " to both the length and the width. Cut the box bottom from $\frac{1}{8}$ "-thick stock.

Step 4: Dry assemble the box bottom. Assemble one short side and one long side, and slide the box bottom into the dados on these two sides. Then place the other two sides in position and make sure everything fits. If the box bottom prevents the sides from fitting tightly together, sand the edges of the bottom with a disc sander until the sides fit.

Step 5: Assemble the box. Place the box bottom in position as you glue and clamp the short sides to the long sides. Apply wood glue only to the rabbets; do not apply glue to the box bottom. Allow the glue to dry.

Step 6: Mark the location of the hinges. Do this step only if you use a framed lid. Clamp the lid in place on the box. Attach the hinges temporarily with masking tape. Pre-drill the holes for the hinge screws. Then remove the tape and hinges.

Step 7: Finish the box. Sand all surfaces of the box sides and lid with 220-grit sandpaper. Remove any dust and apply a lacquer finish or your finish of choice. Allow the finish to dry. Attach the hinges and lid to the box using small screws if applicable. You can line the box with suede-text, felt, or velvet if you choose.

Materials:

Box with fitted lid (A)

- ¼" x 5" x 7" hard maple or wood of choice (fretwork)
- ¼" x 4¾" x 6¾" hard maple or wood of choice (backing board)
- 2 each ¾" x 3" x 7" hard maple or wood of choice (long sides)
- 2 each ¾" x 3" x 4¾" hard maple or wood of choice (short sides)
- ½" x 4½" x 6½" Baltic birch plywood (box bottom)

Box with flat-top lid (B)

- ¼" x 5" x 7" spalted birch or wood of choice (fretwork)
- ½" x 5" x 7" Baltic birch plywood (backing board)

- 2 each ½" x ¾" x 8¾" white oak or wood of choice (long frame sides)
- 2 each ½" x ¾" x 6¾" white oak or wood of choice (short frame sides)
- 2 each ¾" x 3" x 8¾" white oak or wood of choice (long sides)
- 2 each ¾" x 3" x 5¾" white oak or wood of choice (short sides)
- ½" x 6" x 7¾" Baltic birch plywood (box bottom)
- Small box hinges and hardware

Box with recessed lid (C)

- ½" x 5" x 7" Baltic birch plywood or wood of choice (fretwork)
- ½" x 5" x 7" Baltic birch plywood (backing board)

- 2 each ¾" x 1¼" x 9" walnut or wood of choice (long frame sides)
- 2 each ¾" x 1¼" x 7" walnut or wood of choice (short frame sides)
- 2 each ¾" x 3" x 9" walnut or wood of choice (long sides)
- 2 each ¾" x 3" x 6½" walnut or wood of choice (short sides)
- ½" x 6¾" x 8¾" Baltic birch plywood (box bottom)
- Small box hinges and hardware

General materials

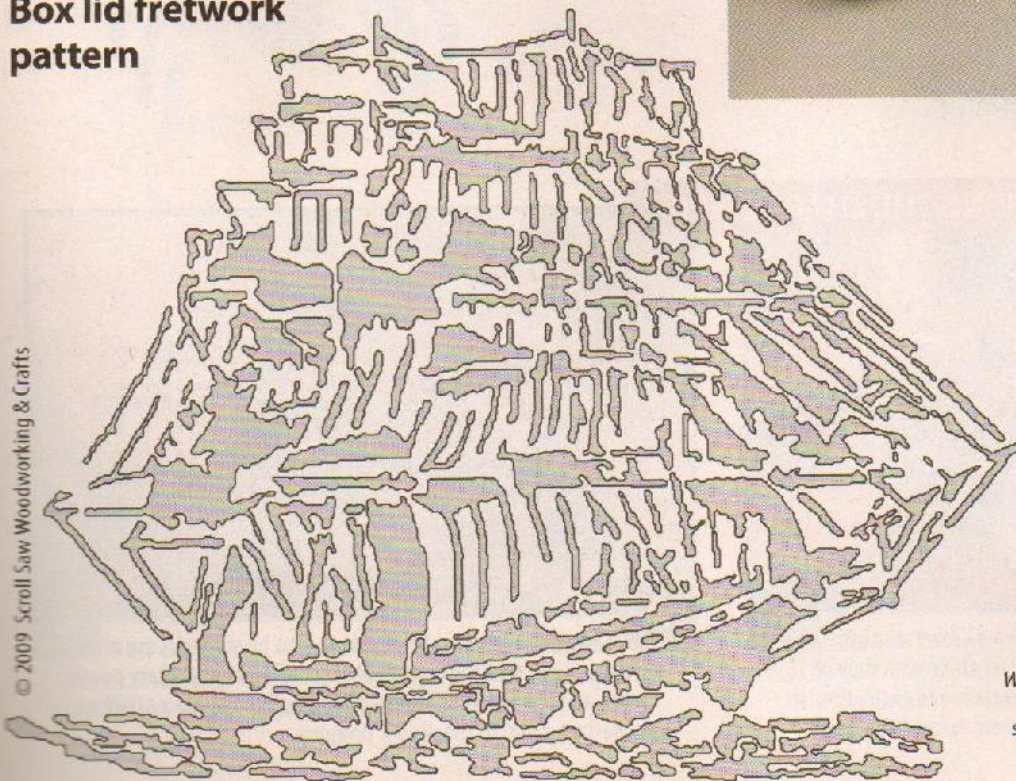
- Spray adhesive
- Blue painter's tape
- Wood glue
- Aleene's tacky glue

- Paint of choice for backing board
- Assorted grits of sandpaper
- Suede-tex, felt, or velvet (optional)

Tools:

- #3 reverse-tooth blades or blades of choice
- Table saw
- Router table
- Assorted rabbet- and straight-cutting router bits
- Drill with assorted small bits
- Sander of choice (I use a random orbit sander and a disc sander)
- Assorted clamps

Box lid fretwork pattern



Use the fretwork as a fitted lid or choose one of two framed styles to showcase the design.

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Kevin Daly operates K&J Woodworks in Seymore, Conn. Visit his website at www.scrollsawpatterns.com.



Frighteningly Fun Halloween Intarsia

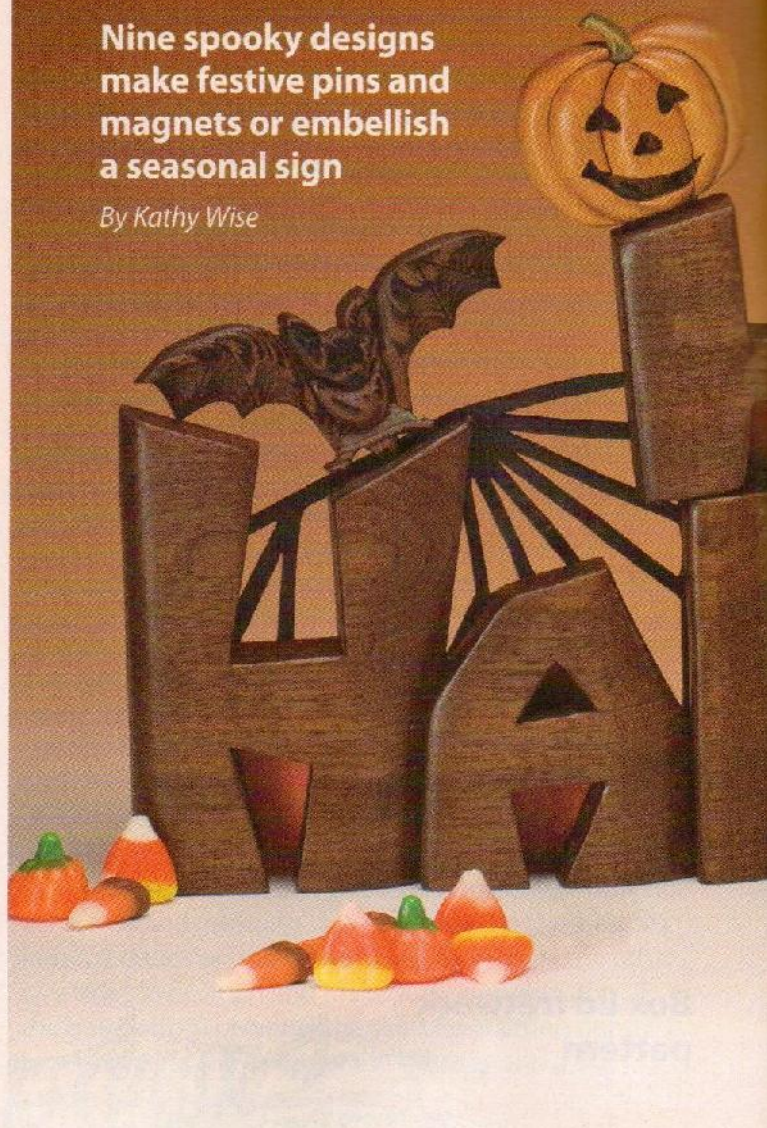
These classic designs are a quick and easy way to add a bit of spirit to your Halloween festivities. Each character takes about ten minutes to create. Add a magnet to the back to make spooky refrigerator magnets or attach a pin back to wear your favorite design. Create a unique display by mounting individual characters on dowels and using them to customize the Happy Halloween sign.

I make the characters from $\frac{1}{4}$ "- to $\frac{1}{2}$ "-thick scrap wood. You may need to hold some of the smallest pieces with pliers or forceps when sanding and shaping. Choose wood in a variety of thicknesses for the magnets or characters to embellish the sign, but use relatively thin wood if you are making lapel pins.

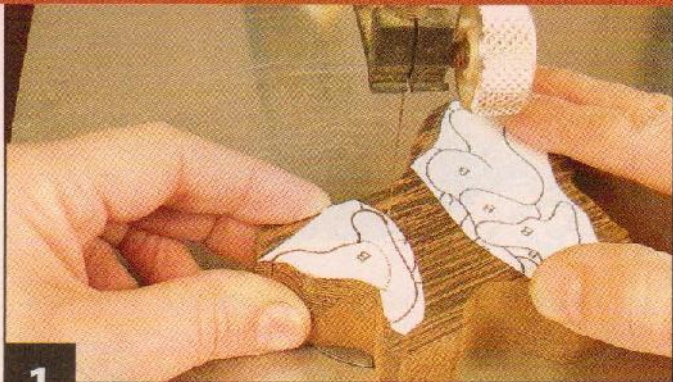
Plane or sand the stock flat for a good cut and fit. To stack cut pieces, attach the stock with double-sided tape. Make several copies of the patterns, cut the individual pattern pieces, and sort them according to the wood color. Attach the patterns to the shiny side of clear contact paper with spray adhesive. Peel off the paper backing to attach the patterns to the wood. Check a cut piece with a small square to make sure your blade is square to the saw table.

Nine spooky designs make festive pins and magnets or embellish a seasonal sign

By Kathy Wise

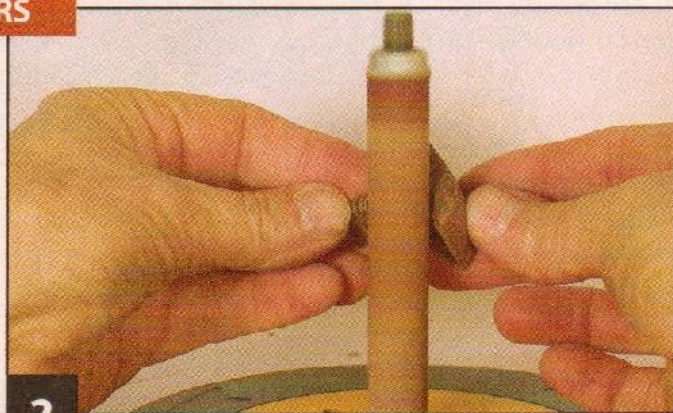


HALLOWEEN INTARSIA: MAKING THE CHARACTERS



1

Cut the pieces. Cut the pieces with a #5 reverse-tooth blade. Mark the back of each piece and place them on a copy of the pattern. Check the fit of the pieces in relation to each other. If you don't like the fit, color, or grain direction, re-cut the piece.



2

Shape the pieces. Mark the areas to be shaped. I use an oscillating spindle sander, a small sanding drum in a rotary power carver, and a pneumatic drum sander. Replace the pieces back on the pattern often to check your progress.



3 **Buff the pieces.** Smooth each of the pieces with a mop sander. The mop sander removes the scratches from the shaping process and produces a smooth surface.



4 **Add the details.** Use a woodburner to add details, such as the hair, broom straw, and eyes. Buff the woodburned pieces lightly with the sanding mop to remove any charred wood.

HALLOWEEN INTARSIA: FINISHING THE CHARACTERS



5

Glue the pieces together. Paint or stain the pieces if desired and let the paint or stain dry overnight. Glue the pieces together with cyanoacrylate (CA) glue. Sand the back of the assembled characters flat.



6

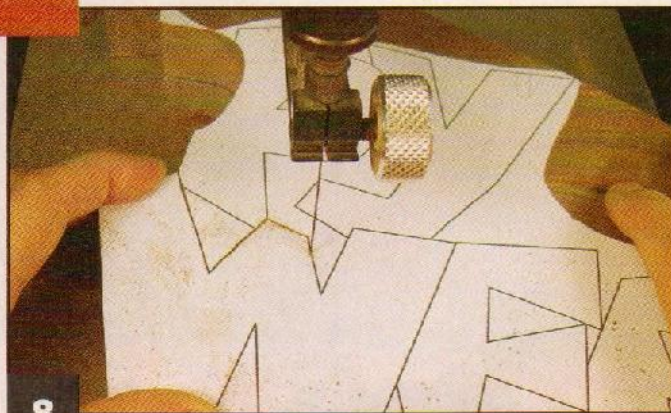
Finish the characters. Apply your spray finish of choice. Drill a hole in the bottom for the dowel stick if you plan to attach the character to the sign. For stand-alone characters, attach a magnet or pin hardware using CA glue or five-minute epoxy.

HALLOWEEN INTARSIA: CREATING THE SIGN



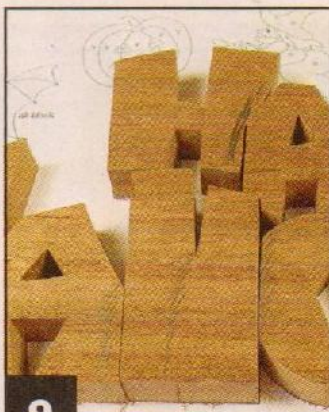
7

Prepare the stock. Attach the pattern to the blank and drill any required blade-entry holes. Sand the bottom to remove any burrs or tear out caused by the drilling process.



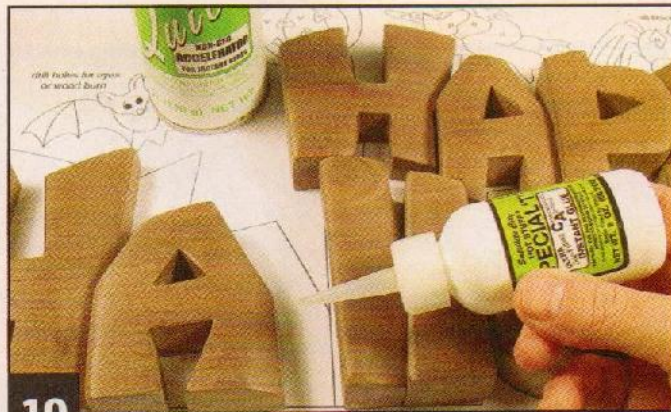
8

Cut the letters. Make sure your blade is square to the saw table. Cut the letters with a #5 reverse-tooth blade. Place each cut letter on a copy of the pattern.



9

Shape the letters. Refer to the shaping guide and mark the areas to be sanded with a pencil. Use a pneumatic drum sander to remove approximately $\frac{1}{2}$ " of wood on the tapered side. Replace the pieces back on the pattern often to check your sanded levels.



10

Assemble the letters. Buff the pieces with a mop sander. Use cyanoacrylate glue to join the letters. Start at the H and work to the right. Keep the pieces flat on the pattern as you glue them together to ensure proper placement.



11 **Apply an oil finish to the sign.** Apply a dark walnut Danish oil to the wood to preserve the dark color. Follow the manufacturer's instructions. Allow the oil finish to dry overnight. Then apply your clear spray finish of choice.



12 **Cut the backing board.** Attach the pattern to the backing board stock. Drill the blade-entry holes and cut the fretwork spiderwebs. Then cut around the perimeter of the board. Test the fit and make any required adjustments.



13 **Assemble the sign.** Paint the fretwork web area black and the other areas bright orange. Let the paint dry overnight. Attach the assembled letters to the backing board with dots of wood glue and CA glue. Apply another coat of clear spray finish.



14 **Attach the characters.** Drill holes for the mounting dowels or glue the characters directly to the sign. You can also attach small eyelets to the bottom of the letters and hang the characters from the sign. Attach your hanger of choice to the backing board.

Materials:

- Assorted scraps 1/8" - to 1/2" - thick and up to 5" x 5" (characters)
- 1" x 9" x 22" black walnut (letters)
- 1/8" to 1/4" x 9" x 22" hardboard or plywood (backing board)
- Finish of choice such as spray varnish, spray lacquer, paint, or stain
- Dark walnut Danish oil
- Roll of clear contact paper
- Spray adhesive
- Fine wire for eyelets (optional)
- Pin hardware (optional)

Materials & Tools

- Dowels (optional)
- Magnets (optional)
- Instant cyanoacrylate (CA) glue
- Wood glue

Tools:

- #3 & #5 reverse-tooth blades or blades of choice
- Drill with assorted small bits
- Pneumatic drum sander, oscillating sander, 1/2" - diameter sanding drum and small power carving bit
- Woodburner

Witch and other patterns for the **HALLOWEEN INTARSIA** are in the pullout section.



Baby Giraffe, pattern #560

Much of Kathy Wise's time is spent working on exciting new intarsia designs and writing her new book, *Intarsia Woodworking for Beginners*, which will be available this fall. For a free catalog of more than 350 patterns or to order a signed copy of her book, contact: Kathy Wise Designs Inc., P.O. Box 60 Yale, Mich. 48097, fax 810-387-9044, www.kathywise.com.



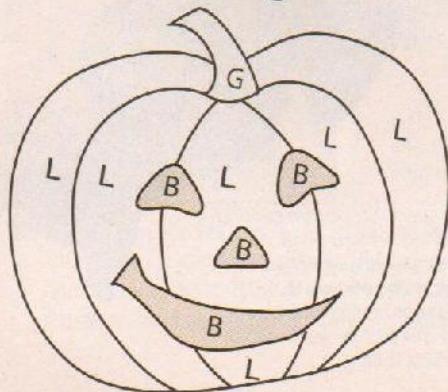
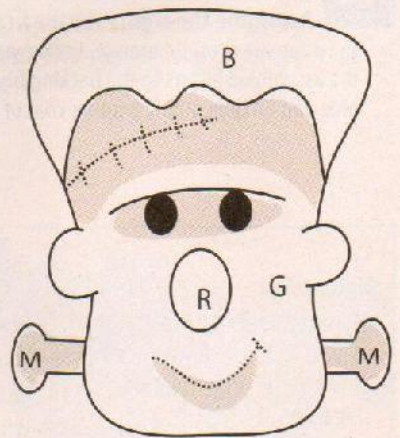
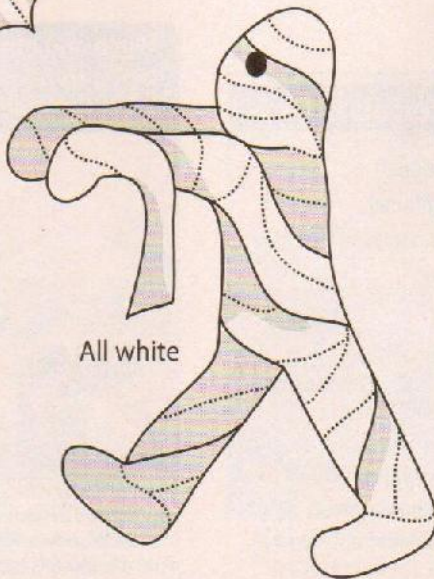
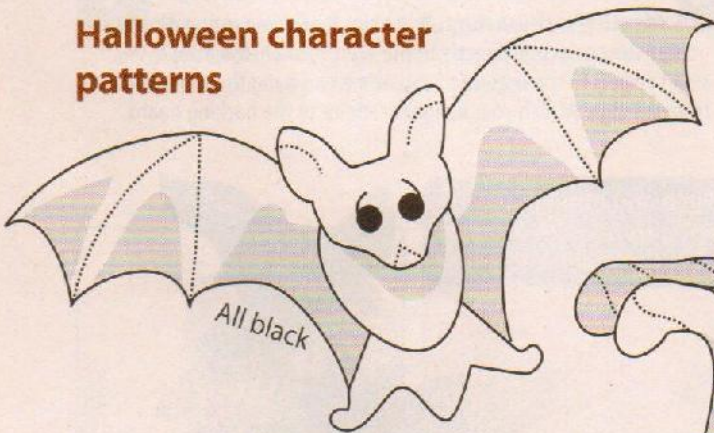
Bat: Use a single piece of wenge. Sand the wings with an oscillating sander to add the concave slope in the wing folds. Shape dowels for the eyes and darken them with a woodburner. Woodburn the wing, ear, and nose details.

Mummy: Use a single piece of white wood, such as aspen. Burn in the wrapping details and continue the lines around the sides. Reduce the thickness of the back leg and arm. Sand the back of the loose wrapping on the arm to thin the piece.

Pumpkin: Use tiger wood and add wenge inlays for the eyes, nose, and mouth. Round each section of the pumpkin leaving the middle as the highest point. Sand the dark areas much lower than the pumpkin.

Frankenstein's Monster: Cut the nose from a piece of bloodwood. Use green poplar for the face. Drill holes and inlay ebony for the eyes. Use a woodburner to add the scar on the forehead and the smile. Hand carve the area right below the eyebrow cut.

Halloween character patterns



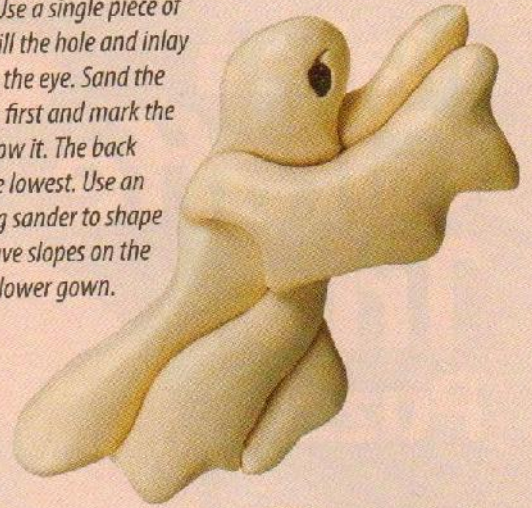
Legend

- Start with 3/4" wood
- R.....Red wood
- B.....Black/very darkest wood
- G.....Green wood
- L.....Orange wood
- Y.....Yellow wood
- M.....Medium shade wood
- W.....Any white wood
- wood burn detail

Spider: Use a single piece of wenge with red bloodwood for the diamond inlay. Mix a bit of the wenge sawdust with CA glue to fill any gaps around the inlay. Drill holes for the eyes before you cut the spider. Inlay ebony or leave the eyes open.



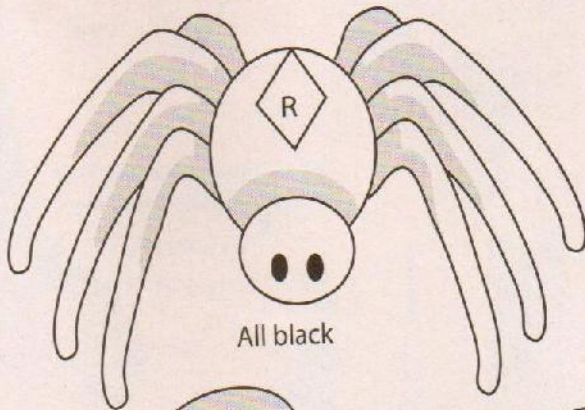
Ghost: Use a single piece of aspen. Drill the hole and inlay ebony for the eye. Sand the front arm first and mark the levels below it. The back arm is the lowest. Use an oscillating sander to shape the concave slopes on the arm and lower gown.



Black Cat: The cat is cut from black walnut. Use yellowheart for the eyes. Woodburn the pupils and details on the face, toes, and hair on the cat's back. Apply a coat of walnut Danish oil to darken the wood.



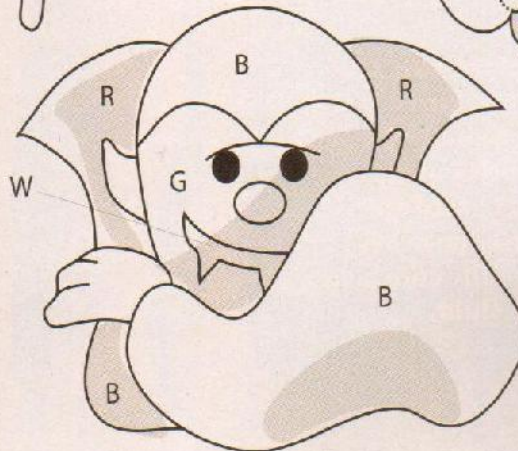
Dracula: Use bloodwood for the collar and green poplar for the face. Drill the holes for the eyes and inset a small piece of ebony. Use light poplar for the fangs. Sand the collar lower than the ears.



Yellow eyes



All white



Make a Giraffe Trio Puzzle

**Sweeping lines and
chunky pieces make
this puzzle easy to
cut and assemble**

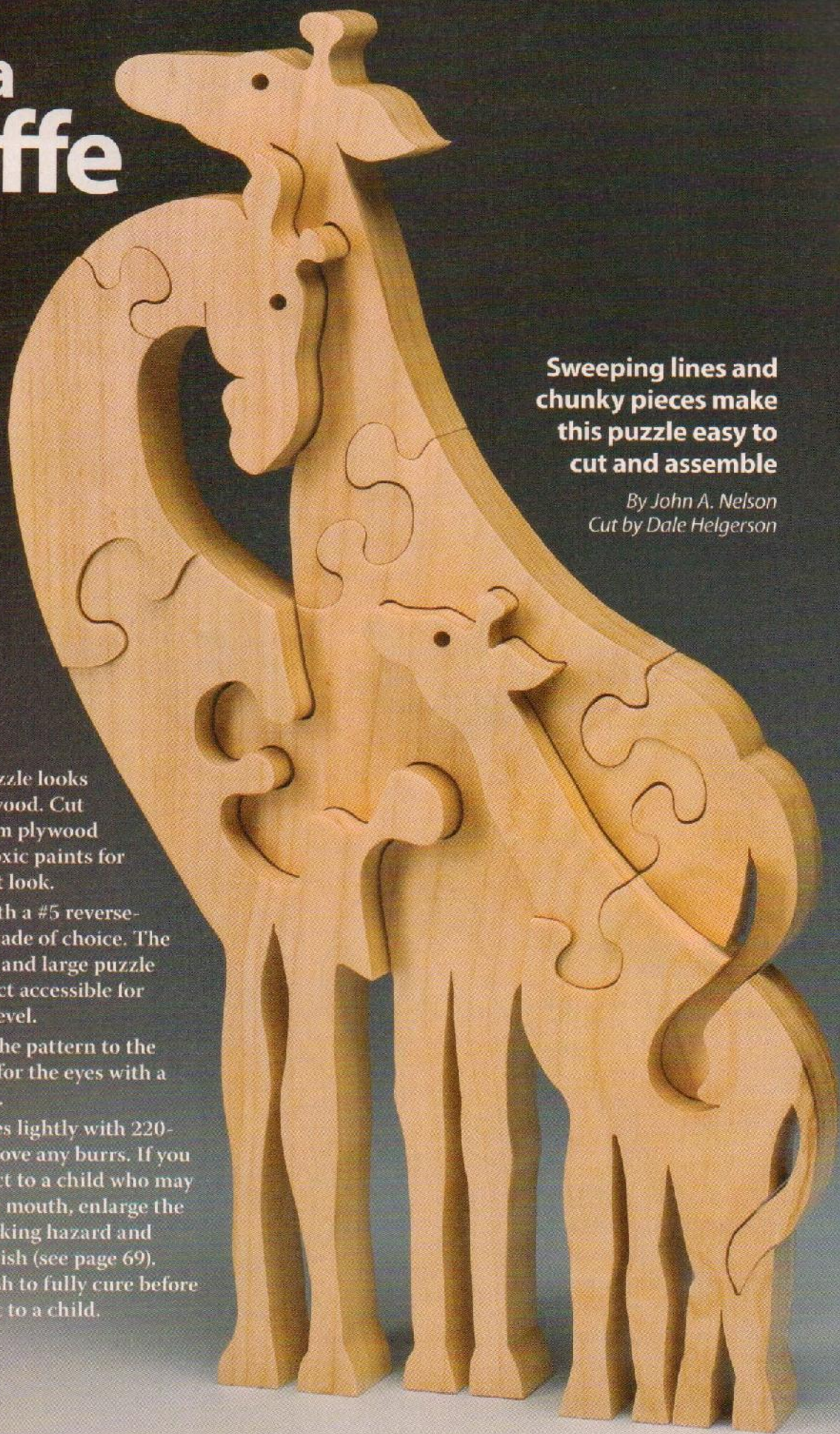
*By John A. Nelson
Cut by Dale Helgerson*

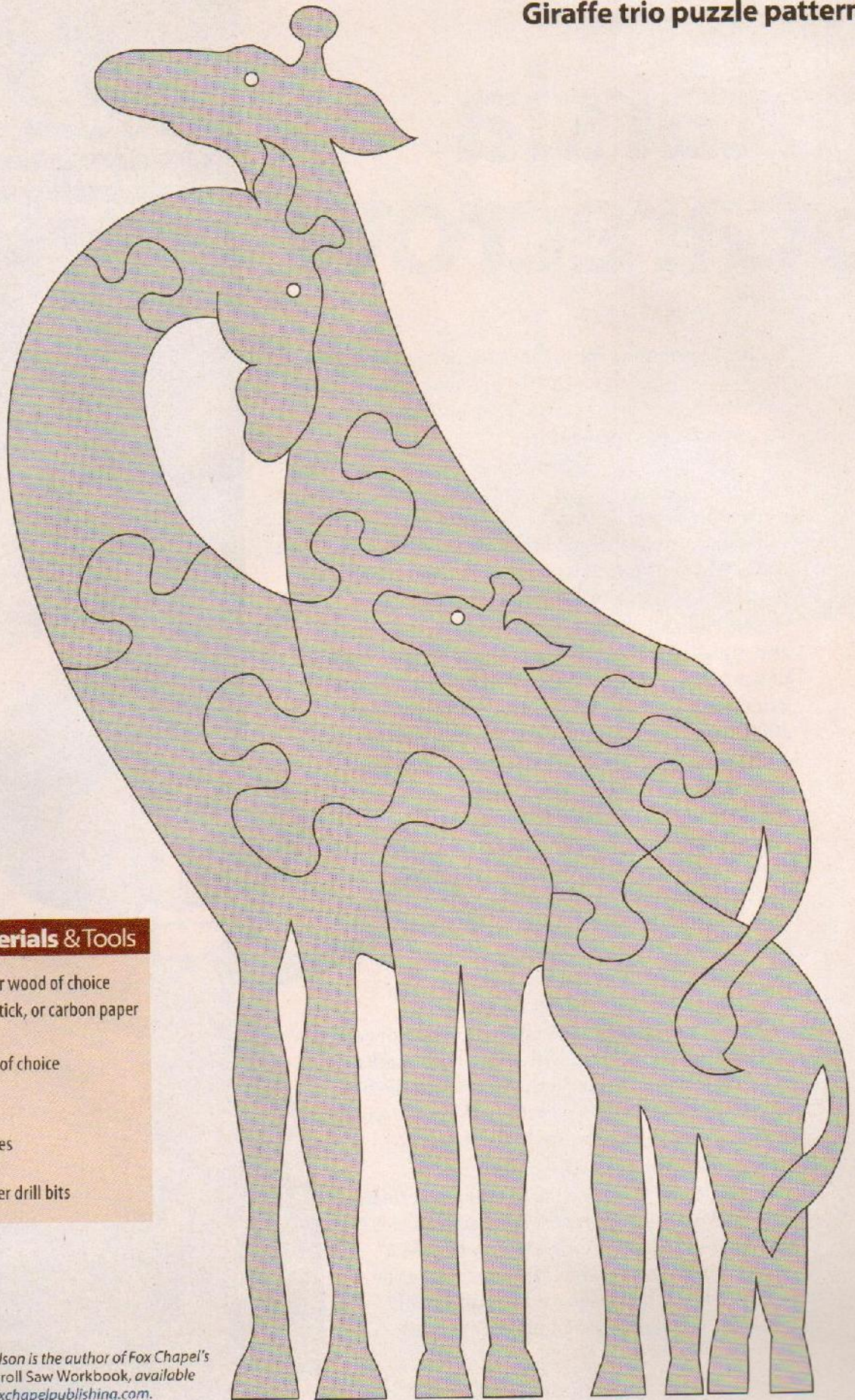
This freestanding puzzle looks great cut from solid wood. Cut the giraffe family from plywood and use bright non-toxic paints for a completely different look.

Cut the design with a #5 reverse-tooth blade or your blade of choice. The easy sweeping curves and large puzzle lobes make this project accessible for scrollers of any skill level.

After you attach the pattern to the blank, drill the holes for the eyes with a $\frac{1}{16}$ "-diameter drill bit.

Sand the cut pieces lightly with 220-grit sandpaper to remove any burrs. If you plan to give the project to a child who may put the pieces in their mouth, enlarge the pattern to avoid a choking hazard and choose a food-safe finish (see page 69). Always allow the finish to fully cure before presenting the project to a child.





Materials & Tools

Materials:

- $\frac{3}{4}$ " x 6" x $9\frac{3}{4}$ " maple or wood of choice
- Spray adhesive, glue stick, or carbon paper
- Sandpaper, 220 grit
- Pure tung oil or finish of choice

Tools:

- #5 reverse-tooth blades or blades of choice
- Drill with $\frac{1}{16}$ "-diameter drill bits



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

Create an Intarsia Scarecrow

Scarecrows remind me of late summer and the fall harvest. I made this cute little character as an homage to the scattered figures decorating gardens and cornfields across the country.

I use walnut for the crows and the smile, aspen for the shirt, spalted hackberry for the straw accents, and northern white cedar for the face and hands. All of the other parts are cut from various shades of western red cedar. Make sure your wood is as flat and smooth as possible. Use a thickness planer if necessary.

Number all of the parts on your master pattern and make several photocopies of the pattern. Make all of your copies at the same time. The optics of a copier can change from use to use, and a copy you make at 100% today could reproduce at 99.5% tomorrow.

Cut each pattern piece $\frac{1}{8}$ " to $\frac{1}{4}$ " outside the lines. This margin gives you time to start cutting on the line correctly before you start cutting the actual part. When the color and grain direction are the same for several adjoining pieces, such as the shirt and pants, leave these patterns connected.

Position the photocopies on the wood to determine the color and grain direction of each piece. Mark the location with small hash marks running from the paper to the wood. Use the hash marks to reposition the pattern back on the wood after you apply the adhesive to the pattern.

Rough shape the entire project before spending a lot of time trying to make it perfect. Once the overall shape is established, you can fine tune the shape of individual pieces. As a general rule, remove wood from the top of the pieces to keep things square and continually mark the depth of adjacent pieces.

Wood selection and woodburned details bring this favorite fall character to life

By Judy Gale Roberts



Visit www.intarsia.com to purchase the matching girl scarecrow pattern (\$8.95 + s&h) or Wonder Wheel (\$34.95 + s&h).

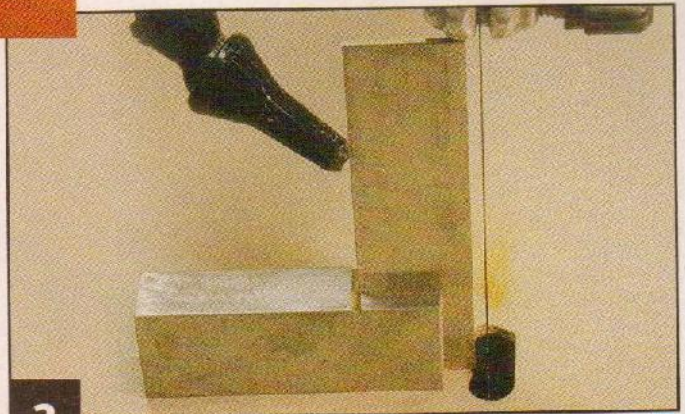


SCARECROW: CUTTING THE PIECES



1

Attach the patterns to the blanks. Use your method of choice. I use a sticker-making machine that applies adhesive to the back of the pattern. The sticker machine costs more, but the patterns stay securely in place during the cutting process.



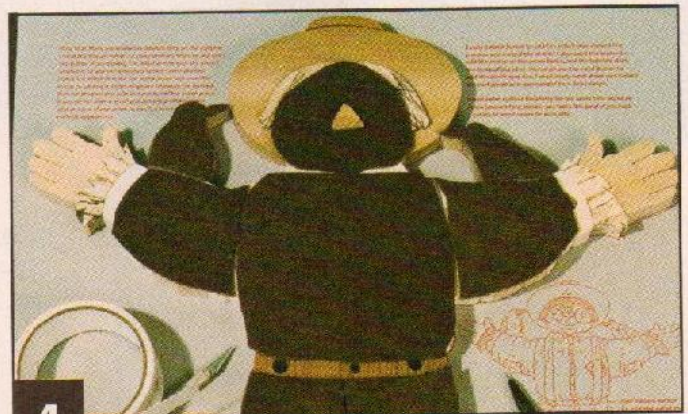
2

Cut the pieces. Make sure your blade is square to the table. Cut the $\frac{3}{4}$ "-thick wood with a #5 blade. I use a #7 blade for thicker wood and a #0 blade to separate areas, like the shirt, that are cut from a single piece of wood. Keep your blade in the center of the line for the best fit.



3

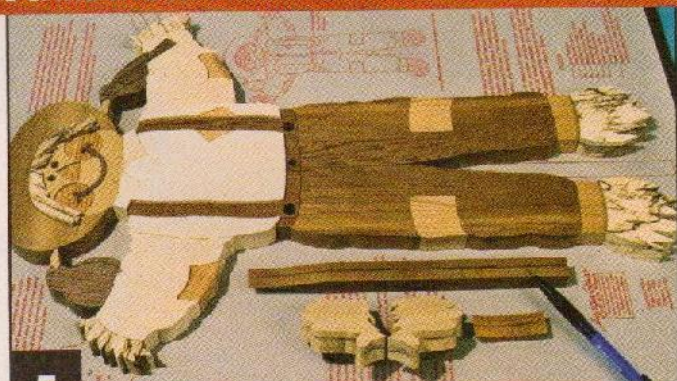
Assemble the pieces. Sand off any burrs on the bottom and position the pieces on a copy of the pattern. Trim the pieces to adjust the fit or recut pieces as necessary. Number the back of the pieces and remove the pattern. Study the project and formulate a rough plan for shaping and sanding.



4

Create sanding shims. Some sections should be shaped as a unit rather than individually. I create sanding shims for the legs, arms, chest, face, and birds. Cut the shims to the size and shape of each section. Attach the cut pieces to the shims with light-duty double-sided carpet tape.

SCARECROW: SHAPING THE PIECES



5

Reduce the lowest pieces. Reduce the thickness of the post, hands, and top of the hat to about $\frac{3}{8}$ " thick. Remove the wood from the top of the parts to keep everything square. The post is behind the legs and the hands are behind the straw.



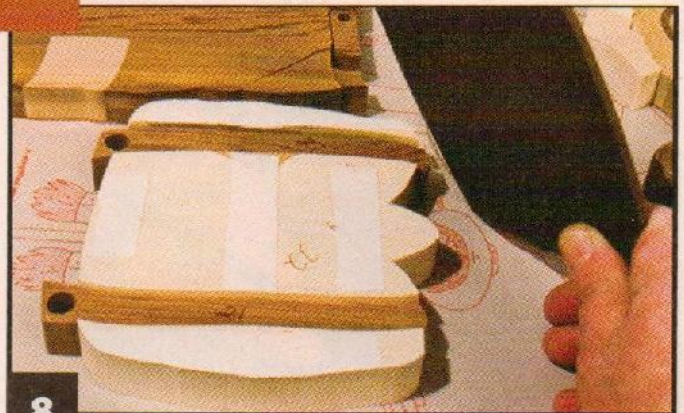
6

Shape the left crow. Attach all of the crow parts except the beak to the sanding shim. Sand the crow down, removing about $\frac{3}{8}$ " of wood, until it appears to be sitting on the back side of the arm. Mark the area where the crow joins the sleeve.

SCARECROW: SHAPING THE PIECES



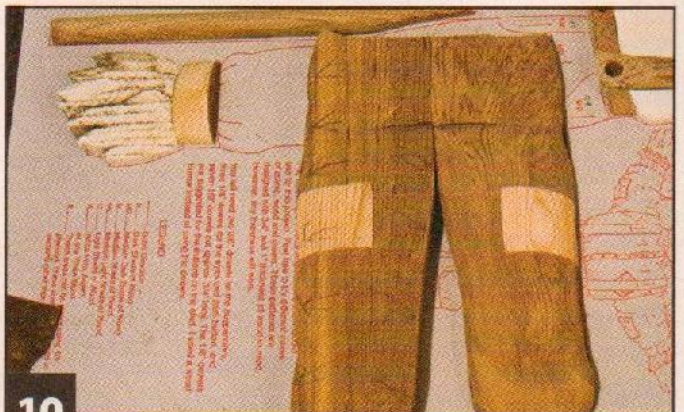
7 **Shape the arms.** Round the straw so it appears to stick out from inside the cuffs. Sand the cuffs down to about $\frac{1}{16}$ " above the top of the straw. With the patches and the sleeves attached to a sanding shim, shape the sleeves. Round the edges down to the bottom except for the areas adjacent to the crows. Do not go lower than the mark indicating the thickness of the left crow and do not over round the area that meets the right crow.



8 **Begin shaping the shirt.** Turn all of the shirt parts, including the suspenders, upside down and apply carpet tape to the white areas. Press the shim down over the inverted shirt. Hold the suspender pieces in place as you rough shape the shirt for a consistent contour. Remove enough wood to make the collar stick out. Remove the suspenders and remove $\frac{1}{16}$ " more wood from the shirt so the suspenders are thicker than the shirt.



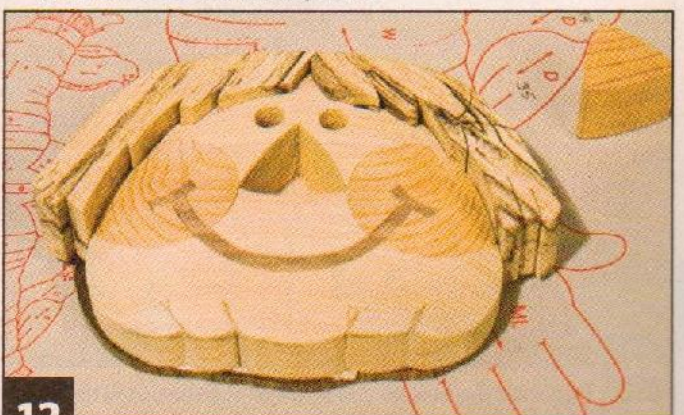
9 **Shape the right crow and collar.** Remove the sleeves from the sanding shims. Mark the right crow where it joins the sleeve. Sand the tail feathers and taper them toward the wing. The wing is thicker than the tail and the body. The body is thinner than the sleeve. Position the collar on the shirt sanding shim and mark the thickness of the shirt. Taper the collar in toward the face and round the outside edges as if it were following the scarecrow's neck.



10 **Shape the pants.** Taper the straw down toward the cuff on the pant legs. Shape the cuffs and mark the pant legs where they pillow out from the cuffs. Securely tape each leg to a sanding shim. The patches follow the same contour as the pants. Round the pants toward the outside edges. Do not round the zipper area. The pockets are below the pants. The waistband is higher than the pants, but lower than the suspenders.



11 **Shape the brim of the hat.** Taper the hat down toward the chin. The upper brim at the front of the hat is the thickest part. You want to create the illusion of the back of the brim going behind the head. Mark the area where the chin joins the collar and the areas where the sanded hat joins the hair and face.



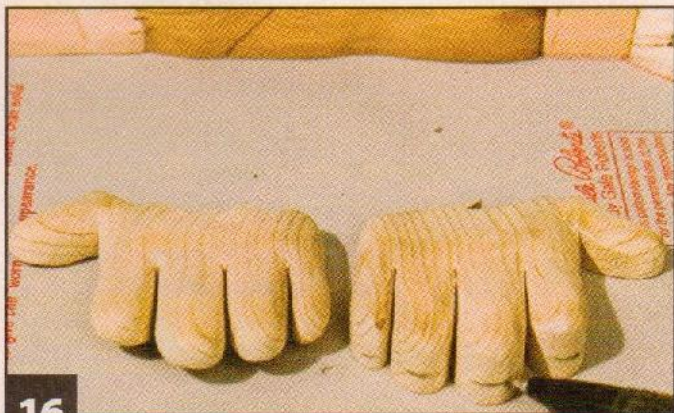
12 **Sand the face.** Shape the face as a unit. Attach all of the parts except the nose and eyes to a sanding shim. Keep the face thicker than the collar and add wrinkles at the neckline for a stuffed look. Mark the hair where it joins the face. Sand the hair thinner than the hat in the front, but thicker than the hat on the sides.



13 **Finish shaping the crows.** Mark the area where the beak meets the crow's face. Sand the beak down to this mark. Use a 1/8"-diameter walnut dowel for the crow's eye. Shape the beak for the second crow and add the eye. Darken the eyes with a woodburner.



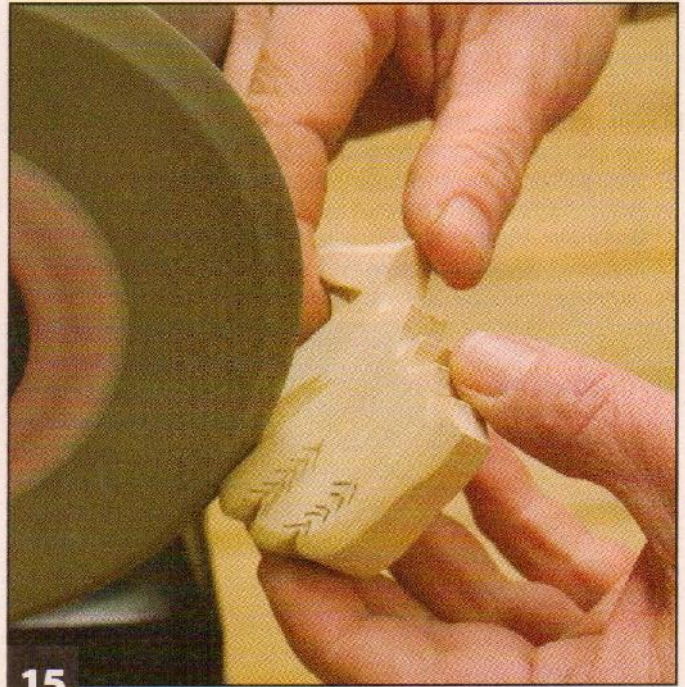
14 **Shape the nose and eyes.** Insert a 1/4"-thick riser under the nose and mark the nose where it joins the face. Round from the center of the nose down the sides, stopping before the lines. Cut 1/4"-diameter dowels for the eyes and sand them down to about 1/16" above the face.



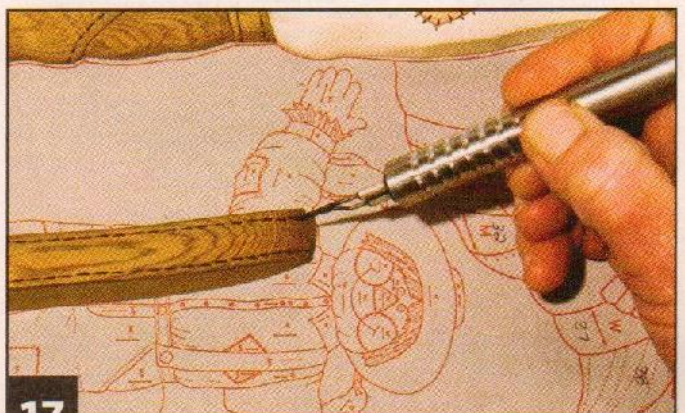
16 **Undercut the fingers and straw at the feet.** Sand the back of the fingers to make it look like the hands are pulling away from the backing board. Do not sand too much off the back. Leave at least two thirds of the bottom flat. Remove just enough wood so the fingers cast a shadow on the backing board. Undercut the straw at the feet using the same technique.

TIP TRIMMING FOR FIT

If the cut parts do not line up with each other properly, you can often see where the piece is cut outside the pattern line. Trim these areas with a sharp blade. It is easier to keep the parts square by re-cutting rather than sanding up to the line.



15 **Add the carved details.** Create definition between the fingers and add some wrinkles to the pants and shirt. I also add texture to all of the straw areas. I use a Wonder Wheel, but you could also use a carving knife, hobby knife, or rotary power carver. Soften the wrinkles in the clothing with sandpaper. Be careful using the Wonder Wheel; it can burn the wood if you are not careful.



17 **Add the final details.** Take a final look at the assembled intarsia and refine any areas that need further shaping. Sand with the grain to clean up any scratches. Remove the dust and check for any remaining rough spots. I use a woodburner to add the stitching details, the buttons, and to detail the beaks on the crows. Practice on scrap wood to get a feel for the woodburner.



18

Apply the finish. Some parts of the face are fragile. Glue the face together before applying a finish. Apply the finish to the other pieces before assembly. I use gel polyurethane. Apply a heavy coat of the gel, wait a minute, and wipe away the excess. Do not apply finish to the back of the pieces. Allow the finish to dry overnight. Then apply two more coats, allowing each additional coat to dry for six to eight hours.



19

Assemble the project. Dry assemble the intarsia and trace the outline. Attach the traced pattern to hardboard and cut $\frac{1}{16}$ " inside the lines. Check the fit of the pieces on the backing board. I start by gluing three or four exterior pieces, such as the straw feet, the hands, the post, and the hat to the backing board. Allow the glue to dry and then attach the remaining parts. After the glue dries, attach a D-ring hanger to the back of the project.

TIP TRACING THE BACKER BOARD

Apply a light coating of spray adhesive to a large sheet of paper. Then assemble the cut pieces on the paper. The light tack of the spray adhesive keeps the pieces from shifting as you trace around the intarsia to determine the shape of the backing board.



ONLINE BONUS

View 20 additional how-to photos on our website.

woodcarvingillustrated.com

Materials & Tools

Materials:

- 5 copies of the pattern
- Glue stick or spray adhesive
- Double-sided light-traffic carpet tape
- Pencil
- $\frac{3}{4}$ " x 6" x 10" dark wood such as dark western red cedar or walnut
- $\frac{3}{4}$ " x 8" x 14" medium dark wood such as western red cedar, mahogany, or cherry
- $\frac{3}{4}$ " x 6" x 12" medium colored wood such as western red cedar, pecan, or red oak
- $\frac{3}{4}$ " x 6" x 8" medium light wood such as western red cedar, oak, or northern white cedar
- $\frac{3}{4}$ " x 6" x 8" light wood such as western red cedar, hackberry, maple, or birch
- $\frac{3}{4}$ " x 6" x 12" white wood such as aspen, white pine, or holly
- $\frac{3}{8}$ "-diameter by 4"-long walnut dowel (buttons on suspenders)

- $\frac{1}{4}$ "-diameter by 4"-long walnut dowel (eyes and pants button)
- $\frac{1}{8}$ "-diameter by 4"-long walnut dowel (crows' eyes)
- Finish of choice such as polyurethane gel
- $\frac{1}{8}$ " to $\frac{1}{4}$ " x 18" x 22" hardboard or plywood (backing board)
- Assorted scraps of $\frac{1}{8}$ " to $\frac{1}{4}$ "-thick hardboard or plywood (sanding shims)
- Woodworkers glue
- D-ring hanger

Tools:

- #5 and #0 reverse-tooth blades or blades of choice
- Wonder Wheel, carving knife, hobby knife, or rotary power carver
- Drum sanders of choice
- Woodburner

Pattern for the *INTARSIA SCARECROW* is in the pattern pullout section.



Judy Gale Roberts, born in Houston, Tex., has long been recognized as the leading authority on intarsia. Judy was one of the first ten people to be inducted into the Woodworking Hall of Fame. For more of her work or information on classes held at her home studio in Seymour, Tenn., visit www.intarsia.com. Judy's numerous intarsia books are available at www.FoxChapelPublishing.com.

Cutting Elegant Spiral Candlesticks

Use your scroll saw to create the look of lathe-turned spirals

By Bruce Pratt

Test cut by Ben Fink

I love to push the boundaries of what can be achieved with a scroll saw. I developed a way to produce the look of lathe-turned spirals using only the scroll saw. Once you've mastered the technique, you can create elegant candlesticks, delicate Christmas ornaments, and contemporary jewelry.

You must use a spiral blade so you can cut through the wood in any direction. A fence is necessary to keep the blade from cutting too far into the blank. The fence can be as simple as a piece of wood clamped to your saw table. Make sure the height of the fence is at least $\frac{1}{2}$ the diameter of the dowel. Make sure your blade is square to the saw table (see page 16).

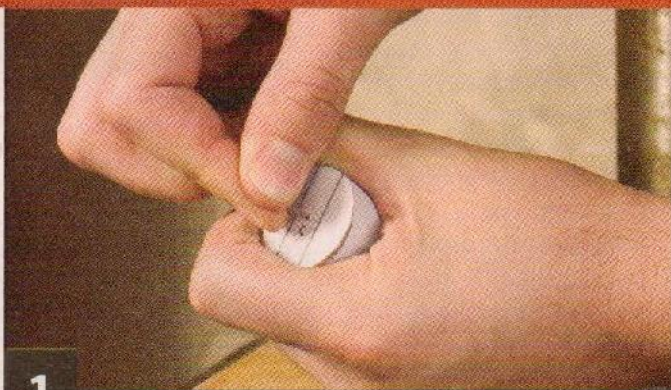
Practice the technique using scrap wood to familiarize yourself with the two-directional movement. Wind a piece of narrow blue tape around a dowel so it creates a spiral pattern similar to a barber-pole design. Position the fence less than half

the diameter of the dowel behind the blade. Hold the dowel firmly against the fence and slide it until one end is just touching the blade. Rotate the dowel until the top of the blade is aligned with one edge of the tape. To cut a spiral, slide the dowel parallel to the fence while you rotate the dowel to follow the edge of the tape with the top of the blade.

I start with the dowel on the left side of the table and rotate the dowel toward me (follow the solid lines). You may prefer to start with the dowel on the right side of the table and rotate the dowel toward the fence (follow the dotted lines). Experiment to find the most comfortable method.

The candlestick pattern is designed for a $1\frac{1}{4}$ "-diameter dowel. An alternate candy cane ornament pattern is also provided. Reduce the pattern, extend the spiral to both ends, or use tape wound around a dowel to create variants of the design.

SPIRALS: PREPARING THE BLANK



1

Mark the center. Make a copy of the pattern. Cut out the pattern, keeping the circles attached to the rectangular portion. Position the circles on the ends of the dowel and mark the center of the dowel by pushing a pin through the mark on the pattern.



2

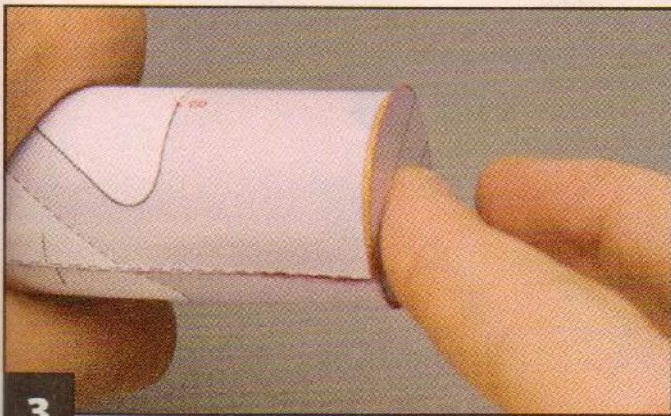
Drill the hardware holes. My hardware requires a $1\frac{3}{16}$ "-deep by $1\frac{1}{16}$ "- or 1"-diameter hole for the cup, and a $\frac{1}{4}$ "-deep by $\frac{3}{4}$ "-diameter hole for the base. Use a Forstner bit. Drill the holes in scrap wood and test the fit of the hardware before drilling the dowel. Use carving tools to adjust the holes if necessary.



Use this new cutting technique to create elegant candlesticks or Christmas ornaments.

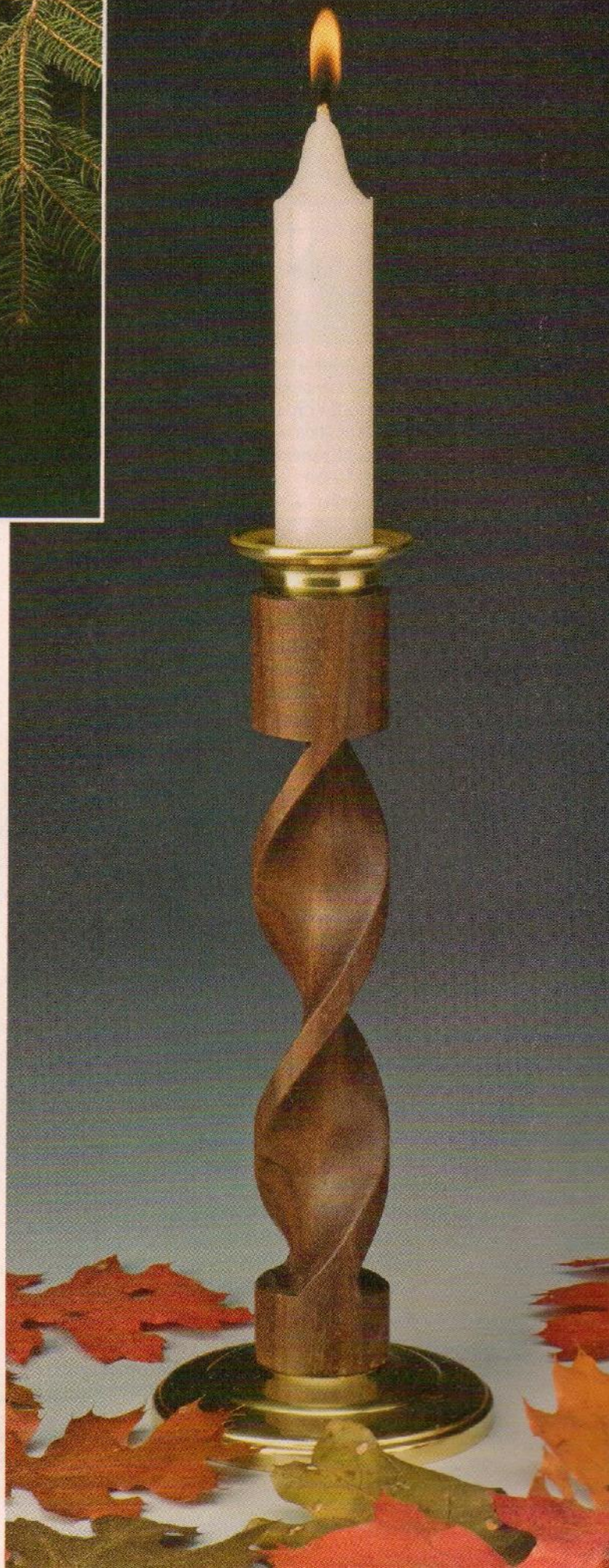
Spiral Cutting Tips

- Be patient when beginning or ending a cut that does not extend to the end of the dowel. You will be cutting across the grain, causing the spiral blade to cut slowly.
- Hardwoods, such as walnut and oak, produce smoother spirals than those cut from softer woods, such as poplar.
- Make the entire spiral cut in one smooth motion. Pausing causes the blade to move within the wood. This movement creates a groove that must be sanded smooth.
- The clearance between the saw arm and the table limits the diameter of the dowel you can use.



3

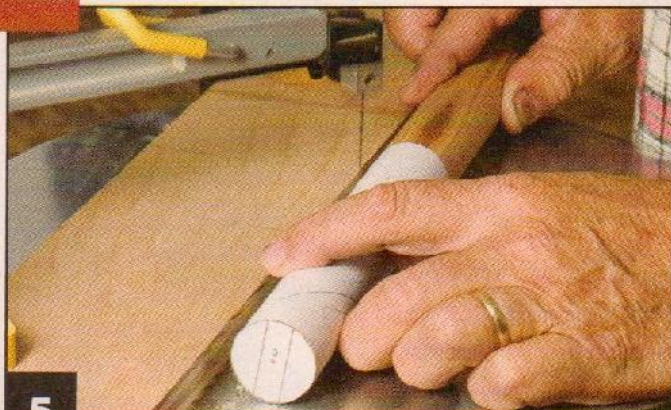
Attach the pattern to the dowel. Spray the back of the pattern with spray adhesive. Wrap the rectangular portion around the dowel, aligning the registration marks. Fold the circles over and smooth them onto the ends of the dowel. Cover the pattern with clear packaging tape if desired.



SPIRALS: MAKING THE CUTS



4 **Set the fence.** Position the fence $\frac{7}{16}$ " behind the blade and clamp the fence to the saw table. Place the dowel against the fence with the lines on the circle pattern parallel with the blade. If necessary, adjust the position of the fence so the blade is aligned with the first line on the pattern.



5 **Make the first cut.** Position the dowel so the blade's first point of contact will be point A. Cut in along the pattern line, moving the dowel slowly until it rests firmly against the fence. Do not rotate the dowel. Pause to let the blade catch up. The blade should be near the beginning of the first spiral pattern line.



6 **Make the first spiral cut.** Keep the dowel firmly against the fence during the entire spiral cut. Rotate the dowel while sliding the dowel to the side to follow the pattern line. When you reach the end of the spiral cut, pause to let the blade catch up. Then pull the dowel away from the fence to cut along the remaining line.



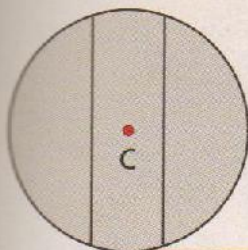
7 **Prepare for the next cut.** Knock out the trapped sawdust from the first cut or use compressed air to blow the sawdust out of the kerf or cut line. Secure the waste in place by wrapping clear packaging tape around the dowel. Position the dowel so the blade's first contact point will be point B.



8 **Cut the second spiral.** Repeat steps 5 and 6, starting at point B and following along the pattern line. Remove the tape and pattern. If the waste does not separate easily, turn the saw off, thread the blade through the saw kerf, and pull the dowel away from the fence to cut the waste into several segments.

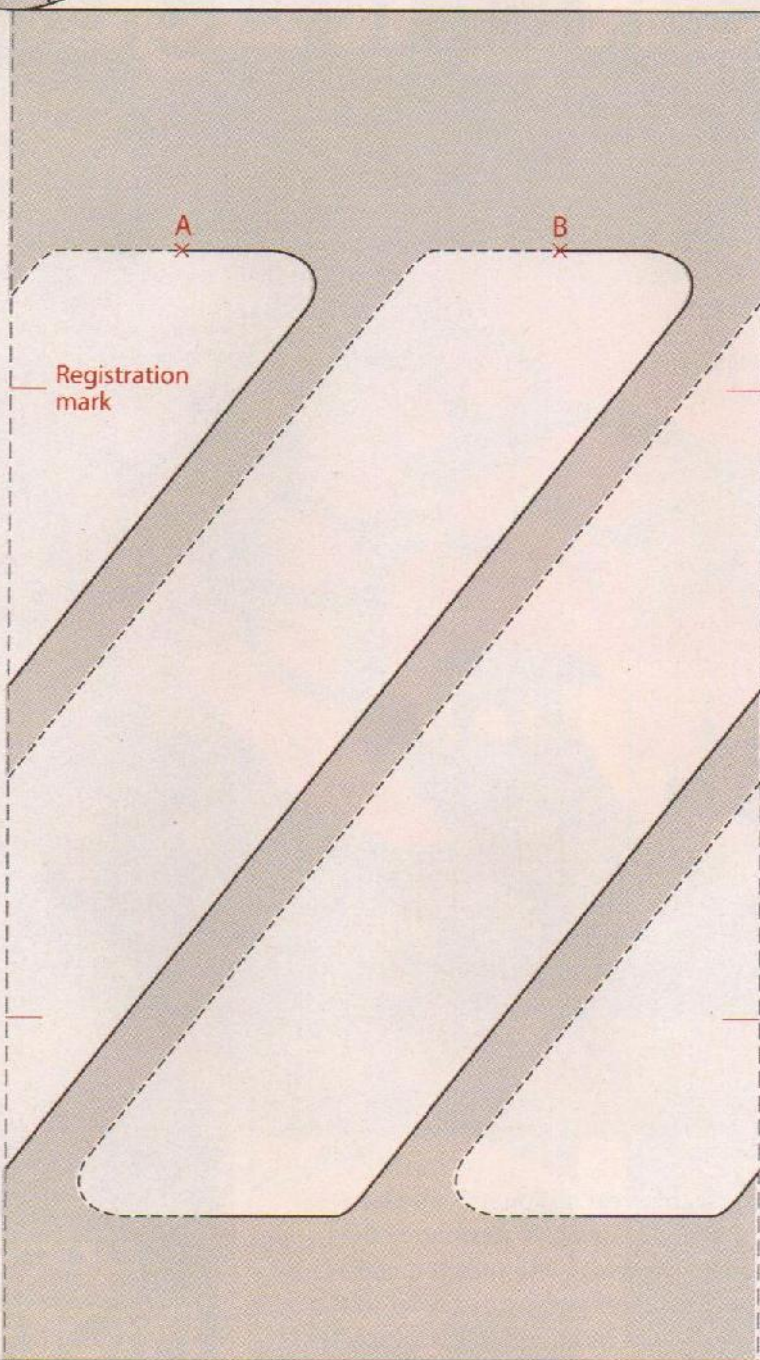


9 **Finish the candlestick.** Sand the spiral smooth with progressively finer grits of sandpaper. You can use an oscillating spindle sander or a small sanding drum chucked in a drill press. I use a dowel with a diameter slightly smaller than the spiral's groove and tape sandpaper to the dowel to sand the spirals.



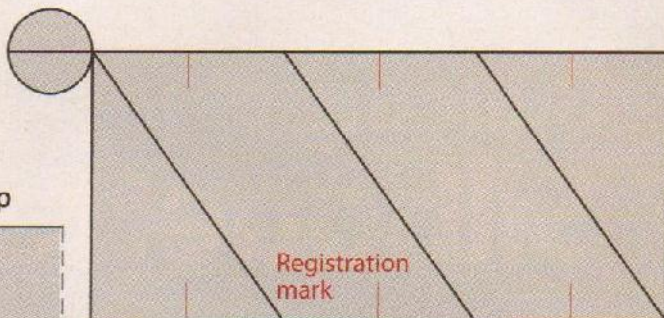
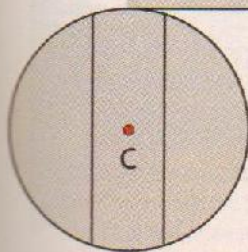
Spiral candlestick pattern

Top



© 2009 Scroll Saw Woodworking & Crafts

Bottom



Spiral candy cane pattern

Candy Cane Ornament Instructions

Attach the pattern to the dowel aligning the registration marks. Set your fence so the blade is lined up with the line on the circle. Start cutting at the end of the dowel and follow along the pattern line using the two-directional movement.

Separate the two spirals. If the spirals won't separate, twist them until they bind and cut along the spiral line again. Sand the spirals smooth and paint them as desired. The spirals can be displayed individually or wound together.

Materials:

- 1/4"-diameter x 7"-long dowel, walnut or wood of choice (candlestick)
- 7/16"-diameter x 3"-long dowel, wood of choice (ornament)
- 1 1/2" x 1 1/2" x 14" wood of choice (fence)
- Assorted grits of sandpaper
- Danish oil or finish of choice
- Brass candlestick kit (candlestick)

Materials & Tools

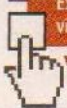
- Acrylic paint of choice (ornament)

Tools:

- #3 spiral blades or spiral blades of choice
- Forstner bits 3/4", 1 1/16" and 1" (candlestick)
- Rotary tool with tapered bit or carving knife and files (to adjust hardware holes)

ONLINE BONUS

Exclusive demonstration video on our Website.



www.scrollsawer.com



Bruce Pratt lives in the Boston, Mass., area and works for a local biotechnology company. He is an avid collector and designer of Gothic window tracery. He can be reached at designs001@comcast.net.

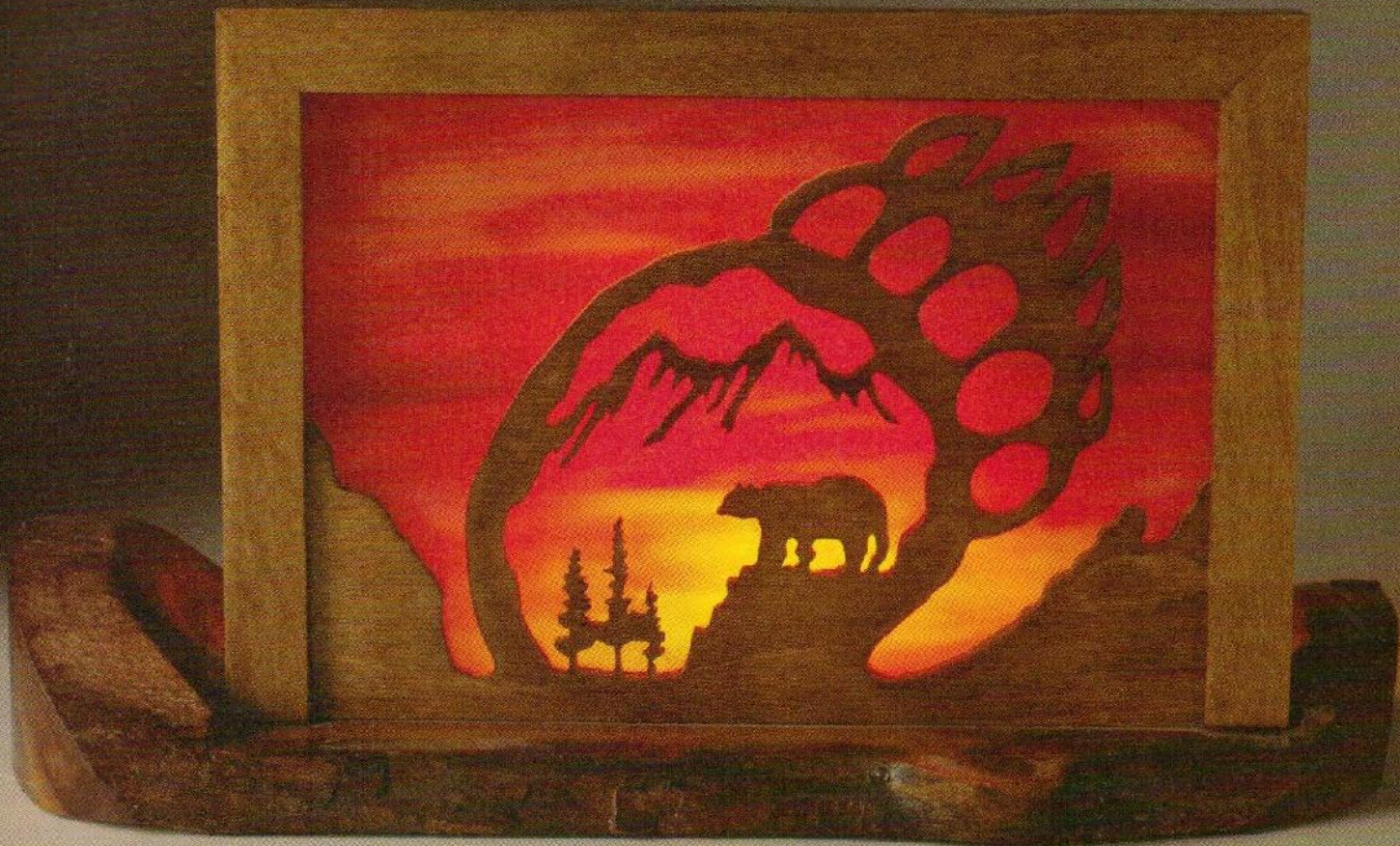
SPECIAL SOURCES:

Candlestick hardware

Penn State Industries (800-377-7297, www.pennstateind.com): #PKCANKIT1

Pen Making Supplies (908-204-0095, www.penmakingsupplies.com): #PK-1087

Building a Silhouette Night Light



Natural log base highlights this wildlife scene

By Virgil Merchant

The peaceful landscape, bear silhouette, and paw print combine to give this design a dramatic effect. I use a piece of stained glass to enhance the nature theme, giving the illusion of a colorful sunset in the background. A small light mounted in back highlights the silhouette and softly illuminates the room. Colored acrylic can be used in place of the glass.

I use a log slab for the base to give the project a rustic feel. The basic construction techniques can be used with a variety of fretwork designs.

You can purchase stained glass from a number of retailers. If you are not comfortable cutting the glass, size the portrait to fit the piece of glass you select or have the retailer cut the glass to size.

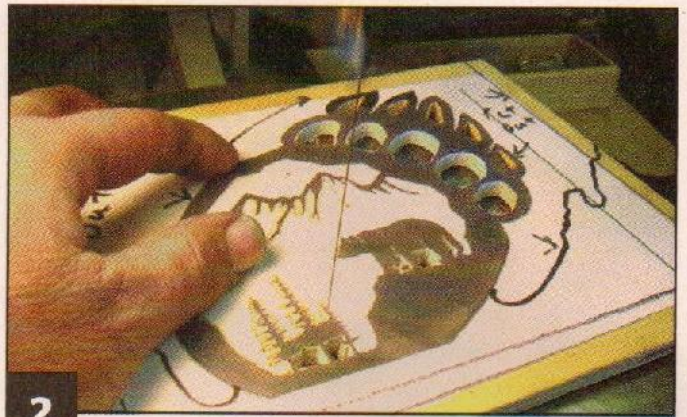
**BEST
PROJECT**
DESIGN CONTEST

FINALIST
SCROLL SAW WOODWORKING & CRAFTS



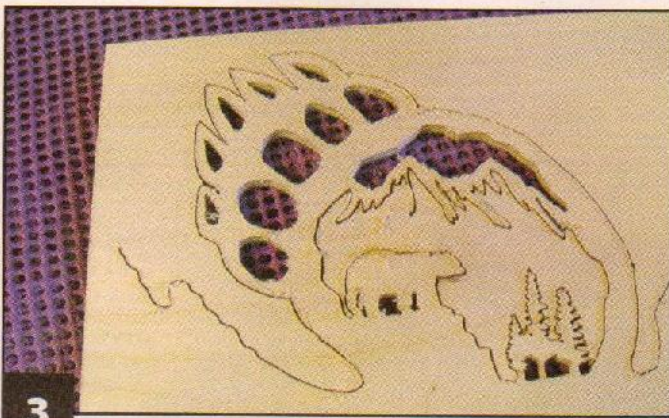
1

Prepare the blanks. Attach the pattern to the stock with spray adhesive. Carve out a flat section on the log slab using a sander or angle grinder equipped with a woodcarving disc. You can also use a square piece of wood with rounded corners for the base.



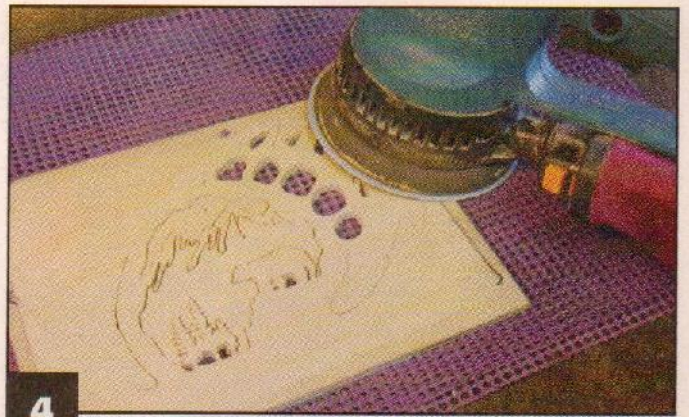
2

Cut the fretwork. Drill the blade-entry holes with a $\frac{1}{16}$ "-diameter drill bit. I use a spiral blade, but a traditional flat blade will work as well. Use a smaller blade for the delicate areas, such as the trees. Stop short of the end of the blank on the mountain lines.



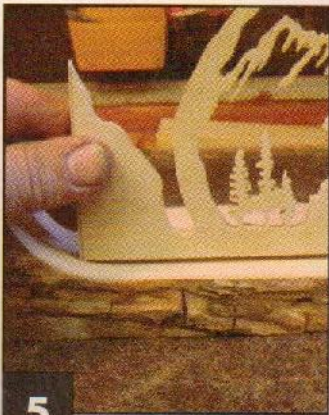
3

Remove the pattern. I use a heat gun to loosen the pattern, but you can also use mineral spirits. Use Goo Gone or mineral spirits to remove any adhesive residue. Keep the waste pieces and place them back in the fretwork to support the fragile areas during the sanding process.



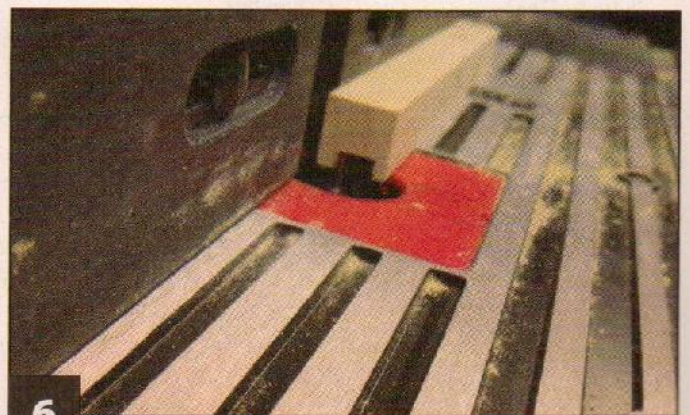
4

Sand the fretwork. Sand both sides of the fretwork. Use a random orbit sander with a 220-grit sanding disc or sand the piece by hand. Use a rotary power carver to smooth any rough cuts or round the pads on the paw print. I use a small propane torch to remove any fuzzies.



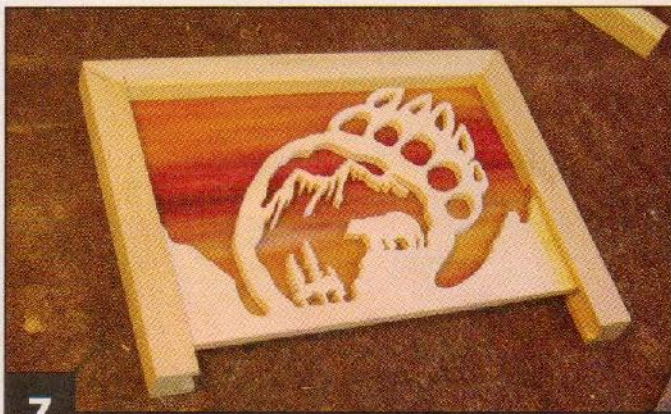
5

Fit the fretwork to the base. Finish cutting the mountain lines to remove the top waste piece. Position the fretwork on the base and make any necessary adjustments. You may need to carve square areas on both ends of the base with a bench chisel to accommodate the frame which will surround the fretwork. You want the fretwork to sit flat on the base.



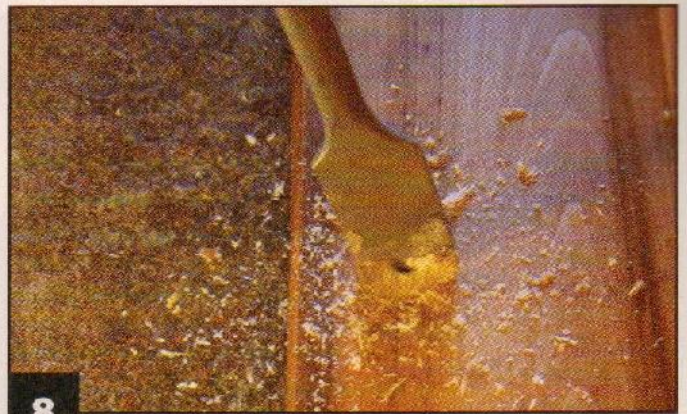
6

Prepare the backer and frame pieces. Score the glass and use glass-breaking pliers to cut the glass to fit behind the scene. If using acrylic, cut it to shape on the scroll saw. Use a router to cut a dado in the frame pieces. The dado on the top rail is cut to accommodate the glass backer only. The dado on the side pieces is wider at the bottom to accommodate the backer and the fretwork.



7

Construct the frame. Make 45° miter cuts for the top corners of the frame. Dry assemble the frame and trim the side frame pieces flush with the bottom of the fretwork. Glue and clamp the three sides of the frame around the fretwork and backer, but do not glue the fretwork and backer to the frame. Allow the glue to dry, then remove the frame from the pieces before applying a finish.



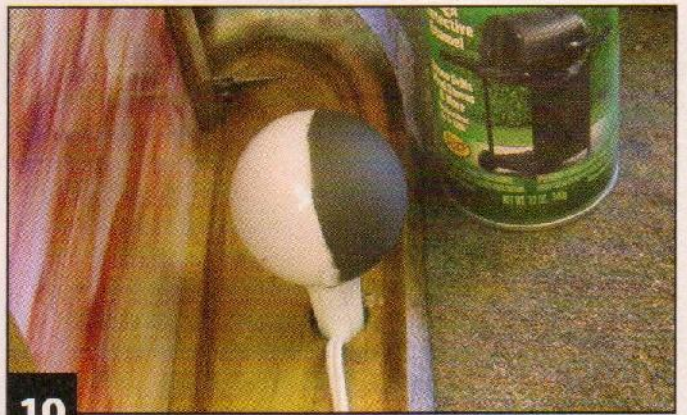
8

Stain the base, frame, and fretwork scene. Use a foam brush to apply a heavy coat of stain to all of the wood pieces. I use Early American. Wipe off the extra stain with paper towels. Drill a 3/8"-deep hole centered in the back of the base for the light. Match the size of the drill bit with the size of your lighting hardware. Carve a small channel beside the drilled hole to accommodate the light cord.



9

Assemble the night light. Insert the fretwork and the backer in the frame. Glue and clamp the frame assembly to the base. Drill and countersink holes through the base into the frame. Drive wood screws through the holes to lock the frame in place. Allow the glue to dry, sign the bottom of the project, and apply a coat of spray lacquer. Attach self-adhesive cork or felt to the bottom of the project to protect your furniture.



10

Install the light. Tape off half of a 25-watt light bulb and spray the bulb with high temperature paint, such as paint for grills. Use hot glue or epoxy to mount the lighting fixture in the drilled hole and use a cable staple to secure the cord to the base so you don't accidentally pull the light off of the base.



Virgil Merchant started scrolling late in his life. A member of the Timbisha Shoshone tribe, Virgil specializes in Southwestern art. He fell in love with a niece's stained-glass work, and began combining stained glass with fretwork designs.

Materials:

- 1/4" x 5 1/2" x 9" plywood (fretwork scene)
- 1/4" x 6" x 9" stained glass or colored acrylic
- 2" x 4" x 13" log slab
- 2 each 3/4" x 3/4" x 6 1/2" poplar (frame sides)
- 3/4" x 3/4" x 9 3/4" poplar (frame top)
- Mineral spirits or Goo Gone
- 220-grit sandpaper or sanding discs
- Early American stain
- Spray lacquer

- Black high-temperature spray paint
- Wood glue
- Hot glue or epoxy
- Lighting hardware
- 25-watt light bulb
- Cable staple

SPECIAL SOURCES:

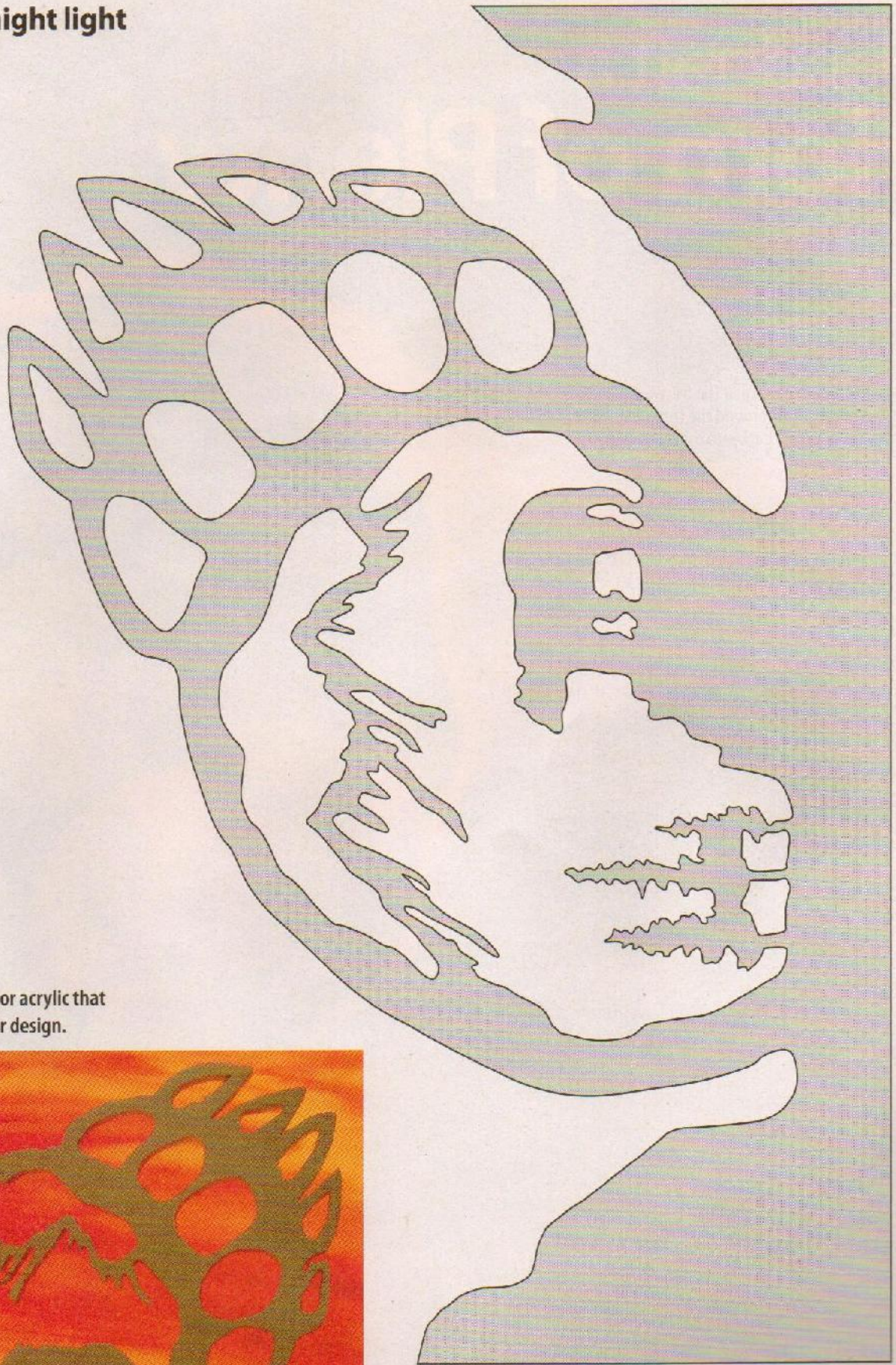
Stained glass can be obtained from YGlass, 888-256-2887, www.yglass.com
Delphi, 800-248-2048, www.delphiglass.com

Materials & Tools

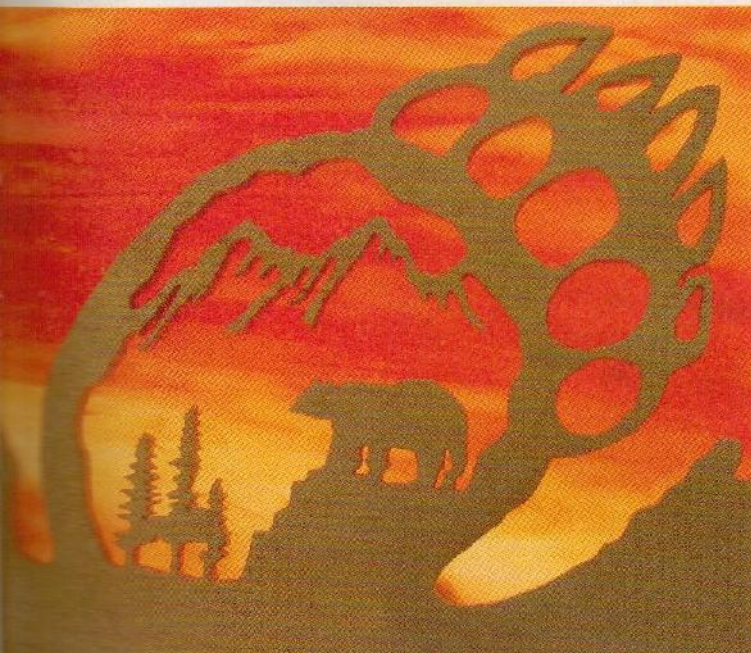
Tools:

- #0 and #3 spiral blades or blades of choice
- Random orbit sander
- Belt sander or angle grinder with woodcarving disc
- Bench chisel
- Clamps
- Drill with bit sized to match lighting hardware

Silhouette night light pattern



Choose stained glass or acrylic that will complement your design.



Handcraft a **Horn of Plenty**



**Display a bountiful harvest
in this cornucopia made
from telescoping rings**

By Gary Terborg



Since the time of the ancient Greeks, the cornucopia has represented fortune and abundance. More recently, the cornucopia has become associated with Thanksgiving and the fall harvest. As a youth, I always admired the cornucopias my aunt displayed on her dining room table at Thanksgiving.

I teach scroll saw classes at the Woodcraft store in Dayton, Ohio, and was searching for a fall project to share with my students. We had created baskets using relief-cutting techniques in the past and I decided to design a cornucopia using these same techniques.

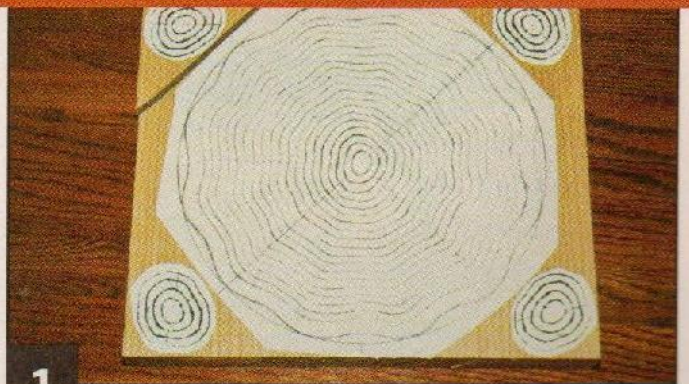
Cutting thick oak is hard on scroll saw blades. I suggest cutting the first four to five rings with one blade, changing blades every two rings for the next four, and then using a new blade for each remaining ring. This is necessary because the teeth on the blade get worn and the kerf will reduce in size, causing problems with the fit of the rings.

I use Titebond medium-viscosity cyanoacrylate (CA) glue to assemble the project. The consistency of this glue allows it to penetrate the small space between the rings, but doesn't soak through the pores of the wood. Use an extra-fine applicator tip on the bottle to control the flow of glue.

TIP ACCURATE CUTS

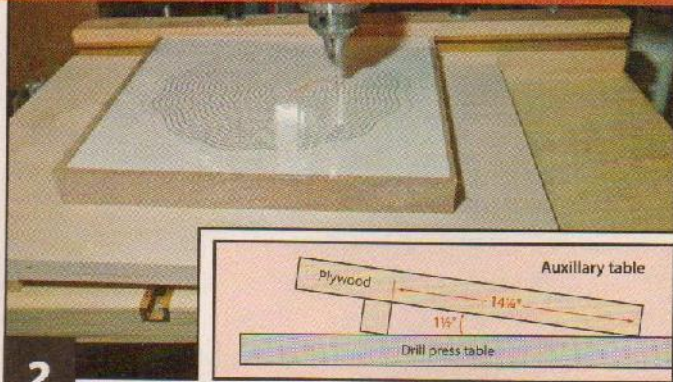
After each cut, blow all of the dust off of the table and the stock before cutting the next ring. Small amounts of sawdust on the table or bottom of the wood can change the cut angle and distort the fit of the rings.

CORNUCOPIA: PREPARING THE STOCK



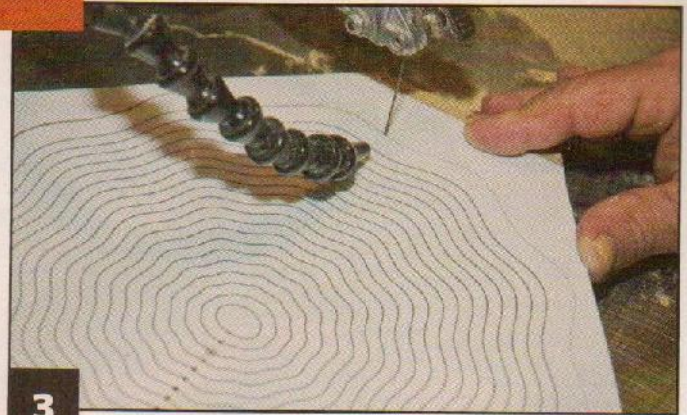
1

Prepare the blank. Choose a blank that is free of knots and splits. Make sure the surface is flat. Sand both sides with progressively finer grits of sandpaper up to 320 grit. Align the grain with the arrow on the pattern and attach the pattern with spray adhesive. Attach test patterns to the waste area in the corners of the blank. Cover the pattern with clear packaging tape.



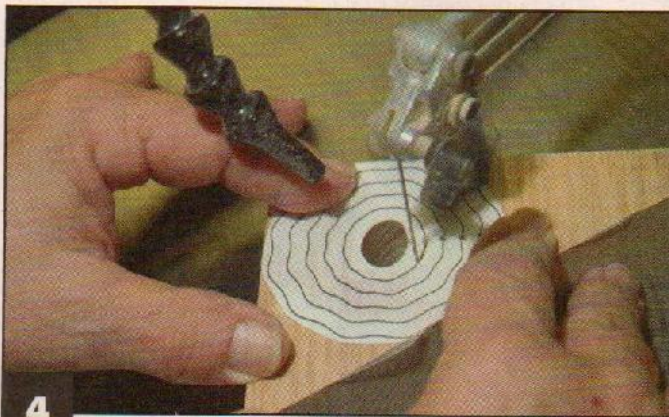
2

Drill the blade-entry holes. Drill the holes at a $1\frac{1}{2}^\circ$ angle. Tilt the drill press table or make an auxiliary table. I use $\frac{3}{8}$ "-thick plywood with a $\frac{3}{8}$ " spacer block for an auxiliary table. Adjust the block to achieve the proper angle. The left side of the blank should be elevated when drilling the blade-entry holes. Drill the $\frac{1}{16}$ "-diameter blade-entry holes where indicated on the pattern.



3

Cut off the excess. Make sure your blade is square to the scroll saw table. Cut along the outside line of the largest ring and separate the test pieces. I use a #9 Flying Dutchman Penguin Silver double-skip-tooth blade. Set the main piece aside and drill the angled blade-entry holes in the test pieces using the same technique you used for the main piece.



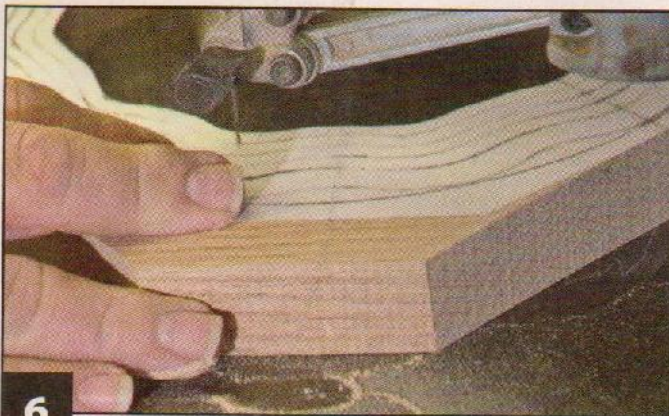
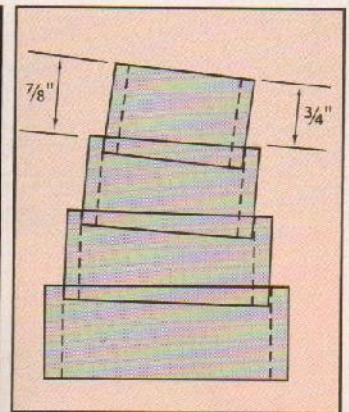
4

Make the first test cuts. Tilt the right side of your saw table down $1\frac{1}{2}^\circ$. Feed the blade through the innermost blade-entry hole on a test piece and tension the blade tightly. Feed the pattern counter-clockwise into the blade until you reach the blade-entry hole. Remove the blade, blow away the dust, and make the remaining cuts.



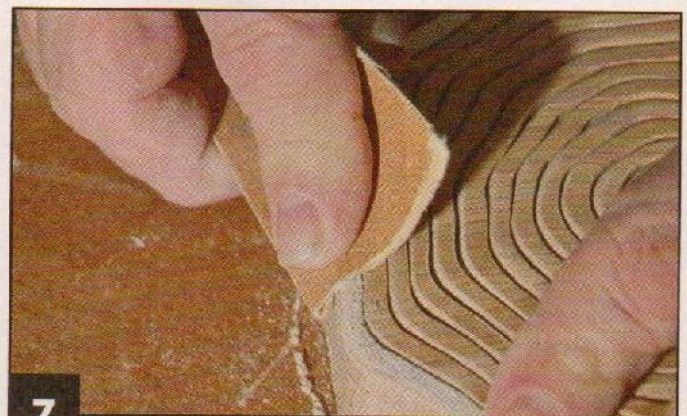
5

Test the fit. Push each ring through the adjacent ring. The rings should lock in place forming a telescoping effect. Add a slight tilt to the rings to give the cornucopia a curled shape. The side with the blade-entry hole should protrude $\frac{7}{8}$ " and the side opposite the hole should protrude about $\frac{3}{4}$ ". Adjust the right side of the table down for a tighter fit or raise it for a looser fit.



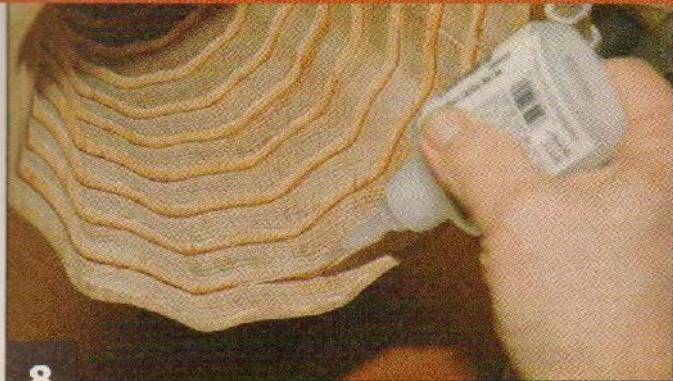
6

Cut the rings. Do not push the piece into the blade. Let the blade do the cutting. Too much pressure will bow the blade, resulting in a poor fit. Start in the center and work your way out to the larger rings. Check the fit of each ring as you cut. Never force the pieces together. After cutting, peel off the tape, leaving the pattern in place. The paper pattern indicates the top of the piece.



7

Round the pieces. Use a router with a $\frac{1}{8}$ "-radius round-over bit to round over both outside edges and the bottom inside edge on the largest ring. Then use 220-grit sandpaper to round over the outside edge on the top and the inside edge on the bottom of each of the remaining rings. Use the adjacent rings to add support as you sand the other rings. Use 220-grit sandpaper to round the tip. Then remove the patterns with mineral spirits.



8

Glue the rings together. Work your way from the center out. Tilt each ring away from the blade-entry hole and lock the ring in place. Rotate the stock as you run a $\frac{1}{16}$ " bead of glue around the intersection of the pieces. The rings are only glued on the inside of the cornucopia. Allow the glue to dry for ten minutes before moving on to the next ring.



9

Fill the blade-entry holes. The blade-entry holes will leave grooves on both the inside and outside of the rings. Fill the grooves with a Minwax #2 wax-filler crayon. Lightly sand the filled area with 220-grit sandpaper. Don't worry if you can't reach the inside grooves on the bottom of the cornucopia.

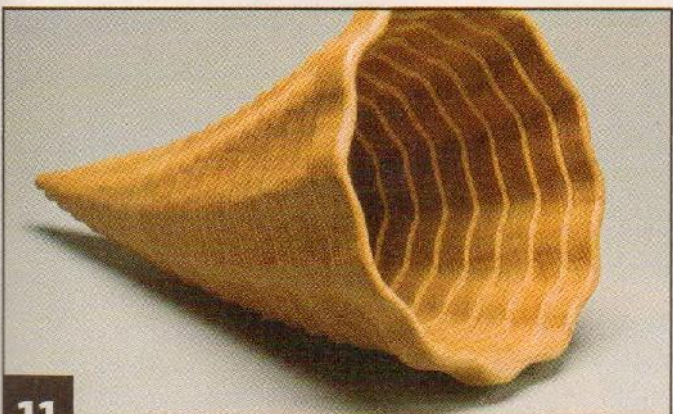
TIP TIGHT GLUE JOINTS

If you have a slightly loose fitting ring, lock it in place with a piece of masking tape on the outside while the glue is drying. Remove the tape before assembling the next ring. When all of the rings are assembled, let the glue dry overnight so it cures to its maximum strength before you apply the finish.



10

Create an applicator stick. Cut a slot in a $\frac{1}{4}$ "-diameter dowel and slip a piece of cotton T-shirt into the slot. Wrap the cotton around the dowel and tie it with string. Use this applicator to apply the Danish oil on hard-to-reach areas. Replace the cotton tip to use the same applicator stick for the wax finish.



11

Apply the finish. Use a cotton rag to apply a heavy coat of golden oak Danish oil to all surfaces of the cornucopia. Wipe off the excess with a clean cotton rag. Use the applicator stick where necessary. Set the project aside for 72 hours. Wipe off any Danish oil that weeps out. Apply a coat of clear paste wax and buff the wax to a glossy finish.

Materials & Tools

Materials:

- 1" x 11" x 11" red oak or hardwood of choice
- Spray adhesive
- Titebond medium-viscosity cyanoacrylate glue with extension tube or CA glue of choice
- Watco golden oak Danish oil
- Minwax #2 wax-filler crayon
- Clear paste wax of choice
- Sandpaper, assorted grits

- Cotton rags
- Dowel to make finish applicator

Tools:

- #9 Flying Dutchman Penguin Silver blades or blades of choice
- Drill with $\frac{1}{16}$ "-diameter bit
- Auxiliary drill press table (optional)
- Router with $\frac{1}{8}$ "-radius round-over bit

Patterns for the **HORN OF PLENTY** are in the pattern pullout section.



Gary Terborg of Englewood, Ohio, works as a mechanical engineer at the U.S. Air Force Propulsion Laboratory at Wright-Patterson Air Force Base. Gary also works part-time at the local Woodcraft. Gary operates his own woodworking business called Elegance in Wood.

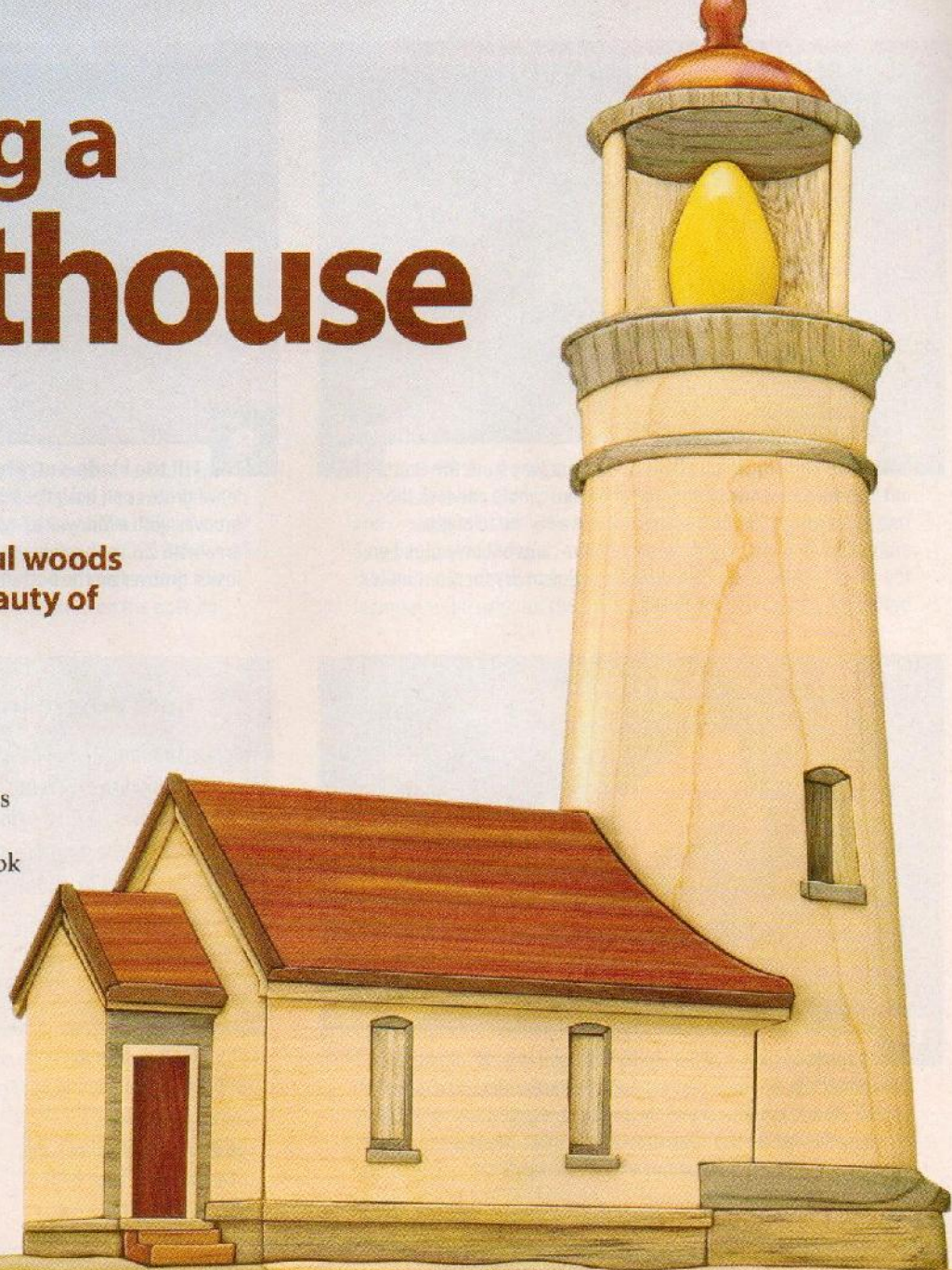
Creating a Lighthouse Scene

Simple lines and colorful woods capture the tranquil beauty of this seaside landscape

By Janette Square

During a recent road trip, we photographed many lighthouses along the Oregon coast. This project is based on a photo I took of the Cape Blanco lighthouse in Port Orford.

I added rocks and water for interest, but strived to recreate the peaceful feeling of the isolated lighthouse. Modify the design by adding stripes or changing the colors to personalize the project.



Cutting the Pieces

Select and layout your wood choices. Pay attention to the grain direction and colors. The area between the grass and rocks is an excellent opportunity to use the figure of the wood to portray windswept sand. Choose wild grain patterns in various colors for the rocks.

Drill blade-entry holes in the window openings. Use a #7 blade to cut the larger sections of the structures including the roof. Switch to a #5 blade for the smaller pieces, such as the windows and trim.

Shaping the Lighthouse

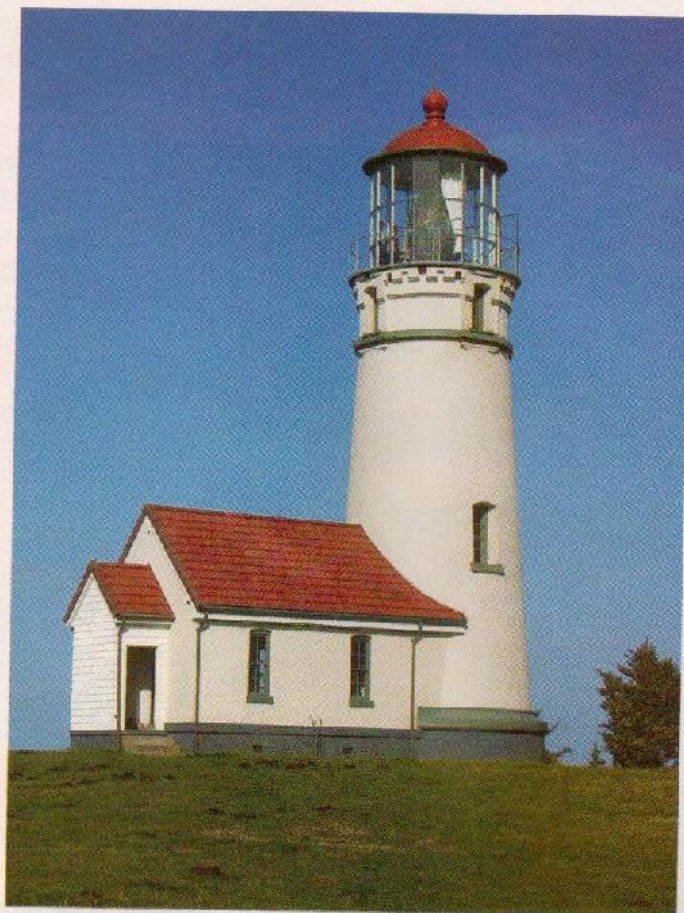
Start shaping the intarsia with the house. I use a belt sander for the large flat areas and sand the smaller pieces by hand. Sand the windows and doors to fit slightly lower than the surrounding buildings. Use shims to raise the foundation and the trim pieces on the roof and windows. Leave the white trim around the door slightly higher than the walls.

Round the lighthouse tower with a flex drum sander and match the contour of the grey pieces to the contour of the main tower. The right-hand piece of the window is slightly beveled toward the left to create the proper angle.

The most difficult area to shape is around the lighthouse bulb. Use an oscillating spindle sander to shape the concave pieces beside the bulb. You want to create the illusion of a piece of glass going behind the light. Taper the ceiling above the bulb to appear as if the bottom is behind the bulb.

Ease the edges of the pieces by hand sanding with 220-grit sandpaper. Then buff the pieces with a sanding mop.

Glue the house and lighthouse tower pieces together.



This intarsia design is inspired by a photo of the Cape Blanco lighthouse in Port Orford, Ore.

Shaping the Landscape

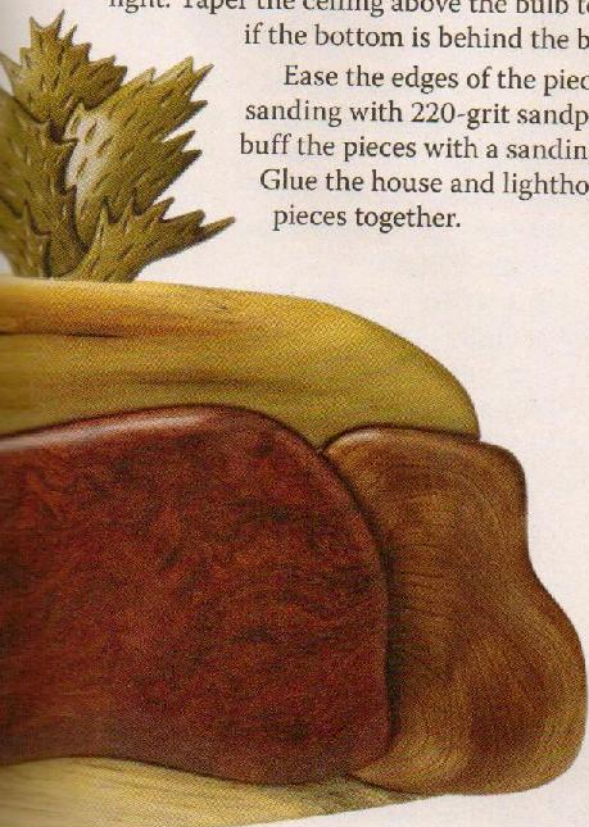
Shape the grass area next, followed by the sand. Use a spindle sander to contour the sand so it appears to be indented under the overhanging grass. Use the spindle sander to create curves and gouges in the rocks. Use shims to raise the rocks in the foreground.

Shape the water and bush with a drum sander. Add texture to the bush with a rotary power carver and carving bit. Glue the landscape pieces together.

Finishing the Intarsia

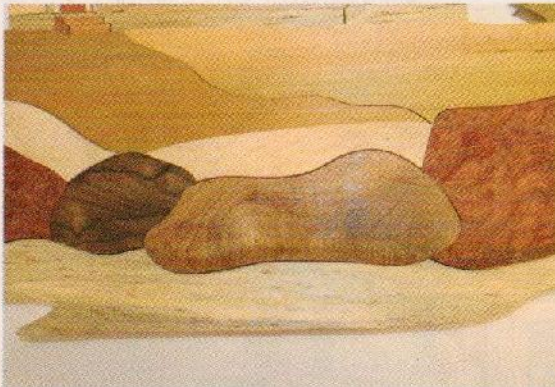
Dry fit the pieces together to ensure a good fit and then glue large sections together for easier finishing. Apply clear gel varnish or your finish of choice. Remove the excess finish with paper towels. Use an air compressor and rubber dental pick for tight areas. Let the finish dry overnight and apply a second coat.

Glue the sections together and trace around the project onto a piece of $\frac{1}{8}$ "-thick plywood. Cut the plywood backing board approximately $\frac{1}{8}$ " inside the traced line with a #3 blade. Glue the intarsia to the backing board with wood glue. Attach a hanger, list the woods used, and sign your work.

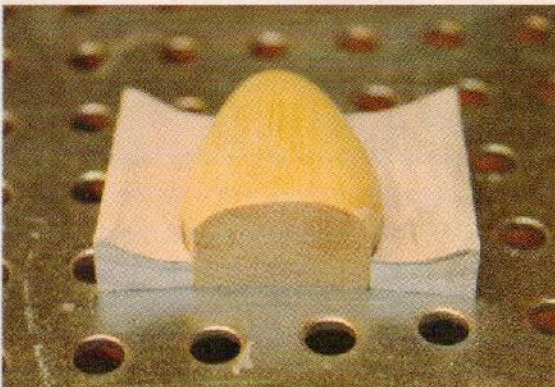




Place the cut pieces on a full-size copy of the pattern.



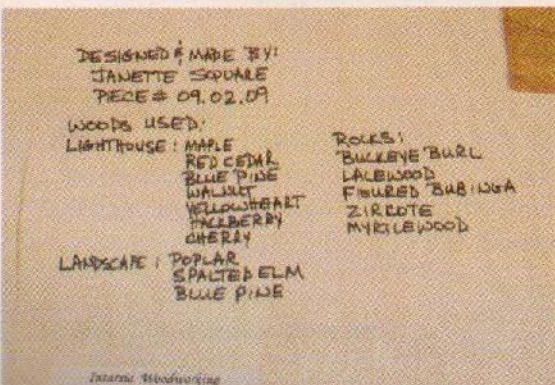
Choose wood with interesting colors and figures for the rocks.



Create the illusion of glass going behind the light by shaping concave pieces.



Use a rotary power carver to add texture to the bush.



Sign the back of your project and list the types of wood used for each area.

Materials & Tools

Materials:

(The woods listed are based on my finished project. I encourage you to use what you have available and personalize the project.)

- ¾" x 9" x 12" hard maple (white areas)
- 1" x 3" x 10" Tennessee red cedar (roof)
- ¾" x 3" x 12" hackberry (around light and windows)
- ¾" x 10" x 12" several shades of blue pine (building accents and window trim)
- ¾" x 4" x 22" blue pine (water)
- ¾" x 2" x 2" cherry (steps)
- 1" x 2" x 2" yellowheart (lightbulb)
- 1" x 2" x 7" walnut (building trim)
- ¾" x 4" x 4" green poplar (shrub)
- ¾" x 4" x 22" green poplar (grass)
- 1" x 7" x 8" spalted elm (sand)
- Woods used for rocks are as follows from left to right: buckeye burl, lacewood, figured bubinga, zircote, and myrtlewood
- ⅛" to ¼"-thick scrap wood (risers)
- ⅛" to ¼" x 20" x 24" plywood (backing board)
- Fine-point permanent marker
- Clear packing tape
- Spray adhesive
- Sandpaper, 220 grit
- Assorted grit sanding drums
- Wood glue
- Clear satin gel varnish or finish of choice
- Hanger
- Disposable foam brush

Tools:

- #3, #5, and #7 reverse-tooth blades or blades of choice
- Flex drum sander
- Oscillating spindle sander
- Belt sander
- Sanding mop
- Drill press for sanding mop (optional)
- Rotary power carver with assorted carving bits
- Air compressor and/or rubber tipped dental tools (to remove excess finish)
- Drill with ⅛"-diameter drill bit

Patterns for **CREATING A LIGHTHOUSE SCENE** are in the pattern pullout section.



Janette Square lives in Eugene, Ore. For more of her work, visit her website at www.square-designs.com.

Fretwork Nativity Cross



**Celebrate the birth of Jesus
with this detailed cross design**

This beautiful fretwork design captures intricate scenes from Jesus' birth. Wise men, shepherds and angels surround the central nativity scene.

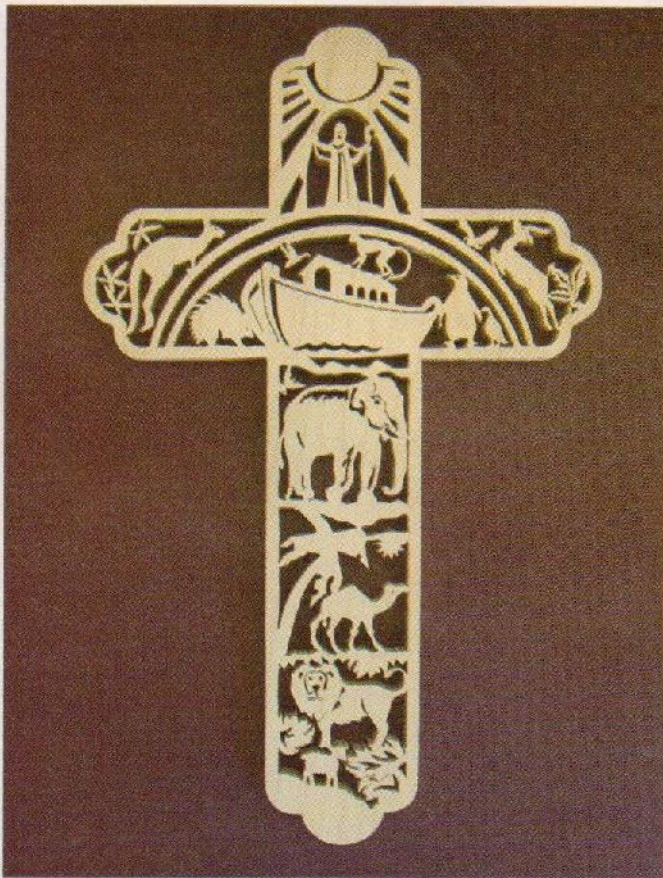
Get a jump start on Christmas gifts or stack cut the fretwork overlay to quickly build inventory for upcoming craft shows.

You can reduce the size of the pattern to make a smaller cross, but may need to eliminate some details, such as the eyes. To make a full-size cross, you may need to edge glue two boards together to get the required 11" width. Align the grain pattern, sand the boards smooth, and remove the dust. Apply a thin even coat of wood glue to the joint area and clamp the pieces together. Remove the excess glue with a damp cloth. When dry, sand the joint smooth.

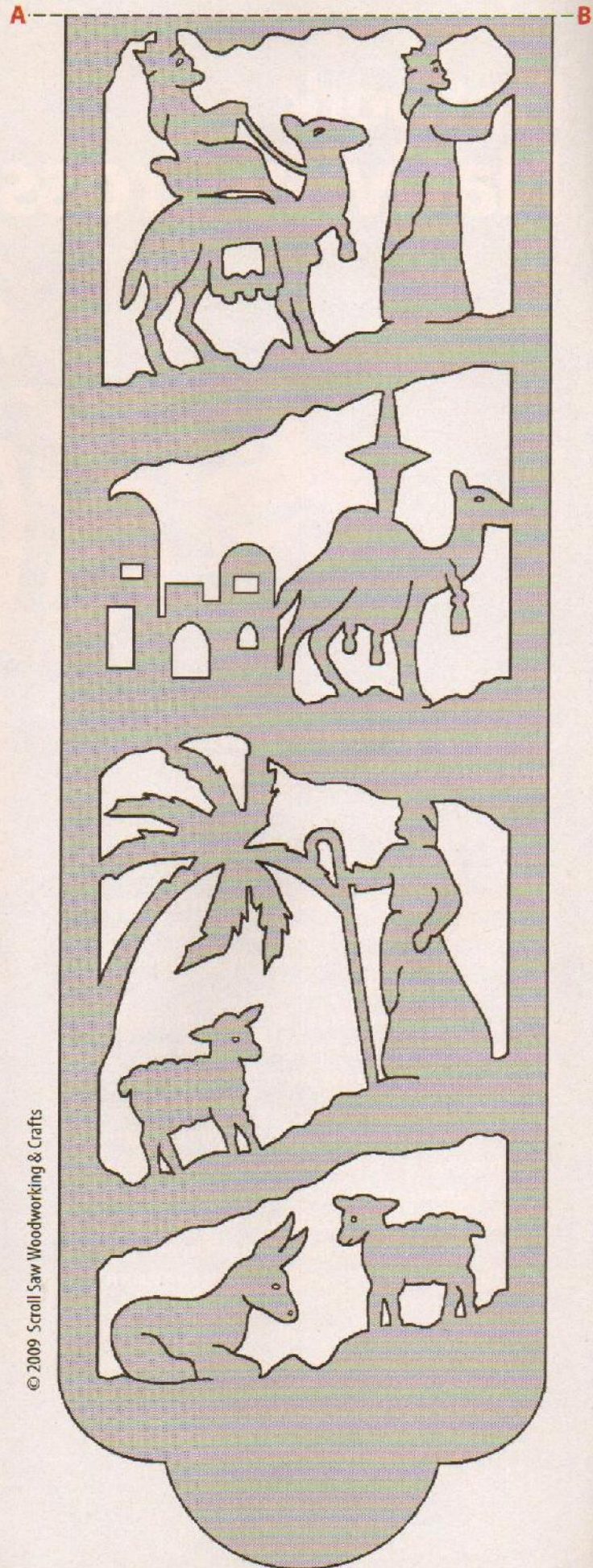
The design is equally appealing cut from a thick hardwood or used as an overlay attached to a contrasting backing board. I recommend using $\frac{1}{8}$ "- or $\frac{1}{4}$ "-thick wood for the overlay and $\frac{3}{4}$ "- to 1"-thick wood for the backing board or the stand-alone cross. Using thicker hardwood for the backing board adds substance and value to the project. I stack four layers of $\frac{1}{8}$ "-thick material together to support the fretwork during the cutting process. Cut only the interior fretwork on the overlay. Then separate the stack of overlays and stack the individual overlay with its backing board before cutting the perimeter.

Use contrasting wood for the backing board and overlay. The overlay can be cut from hardwood or Baltic birch plywood.

After cutting, sand the wood lightly with 220-grit sandpaper. Glue and clamp the overlay to the backing board. To finish the cross, apply several thin coats of clear spray varnish. Allow the varnish to dry thoroughly and sand the surfaces with 600-grit sandpaper between coats. Attach a saw-tooth hanger to the back of the cross or mount it in a frame for a shadow box effect.



Sue Mey offers several similar fretwork cross designs on her website, www.scrollsawartist.com. Sue's Noah's Ark pattern was cut by John Winter of Medford, Wisc.



Materials & Tools

Materials:

- $\frac{1}{8}$ " to $\frac{1}{4}$ " x 11 " x $17\frac{1}{2}$ " wood of choice (overlay)
- $\frac{3}{4}$ " to 1 " x 11 " x $17\frac{1}{2}$ " hardwood of choice (backing board or stand-alone fretwork cross)
- Sandpaper, 220 and 600 grits
- Wood glue
- Spray varnish
- Saw-tooth hanger

Tools:

- #3 reverse-tooth blades or blades of choice
- Drill with $\frac{1}{16}$ "-diameter drill bits
- Clamps

A

B

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Sue Mey lives in Pretoria, South Africa. To see more of her work or for pattern-making tutorials and a wide variety of patterns for sale, visit www.scrollsawartist.com.

Compound-cut Mini Clocks



Graceful curves add an element of fun to these quirky clocks

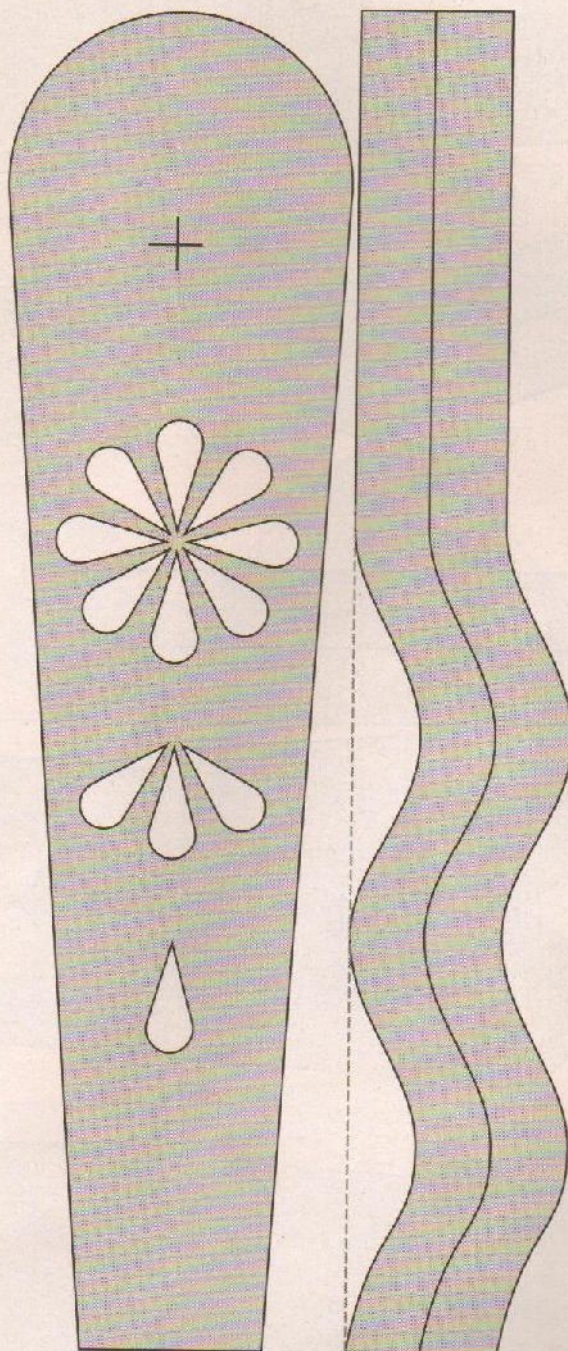
By Sue Mey
Cut by Ben Fink

These interesting little clocks are sure to get a second look. The flowing waves give the illusion of bent wood, but the curves are actually made with simple compound cuts. Create the free-standing version or attach a dowel to the bottom and stick them in your pencil box for a fun and functional desk accessory. They make amusing additions to potted plants or can be tucked into a small jar or vase filled with marbles or polished stones.

To get started, cover the blanks with masking tape, fold the pattern along the dotted line, and attach the patterns to the blank with spray adhesive. Drill the hole for the clock insert with a Forstner bit and drill the blade-entry holes with a $\frac{1}{16}$ "-diameter bit. Cut the frets with a #7 or #9 skip-tooth blade. Then cut around the perimeter of the clock. Remove the dust, replace the waste pieces, and wrap clear packaging tape around the blank. Rotate the blank 90° and cut the wavy lines on the side. An extra cut on the side produces two clocks from the same blank. Remove the tape and patterns, and sand the surface with 220-grit sandpaper.

For display in a container, drill a $\frac{1}{8}$ "-diameter by $\frac{3}{4}$ "-deep hole in the bottom of the clock. Glue a dowel in place and allow the glue to dry. Experiment with drilling the dowel hole through the waves for a threaded look. To make a free-standing clock, drill a $\frac{1}{8}$ "-diameter by $\frac{1}{8}$ "-deep hole at a 45° angle near the center of the clock. Cut both ends of the dowel at a 45° angle and glue the dowel in place.

Apply several coats of spray varnish or your finish of choice. Sand between coats with 600-grit sandpaper. Allow the varnish to dry and insert the clock.



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Materials:

- $1\frac{1}{4}$ " to $1\frac{1}{2}$ " x 2" x 7" maple or hardwood of choice
- $1\frac{1}{16}$ "-diameter clock insert
- $\frac{1}{8}$ "-diameter by $5\frac{1}{4}$ "-long wooden dowel or brass rod
- Sandpaper, 220 and 600 grits
- Masking tape
- Clear packaging tape
- Spray adhesive

Materials & Tools

- Spray varnish
- Wood glue

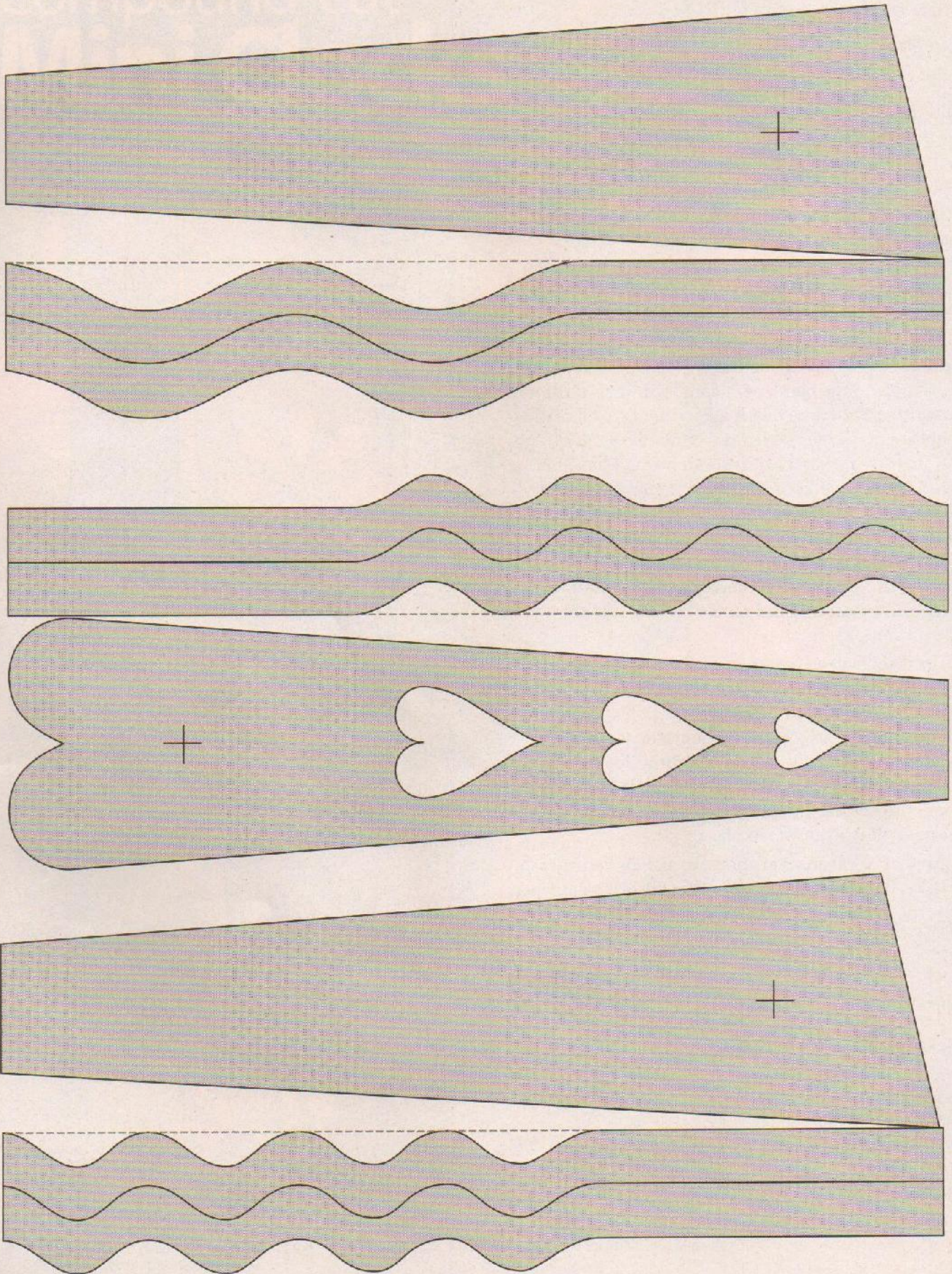
Tools:

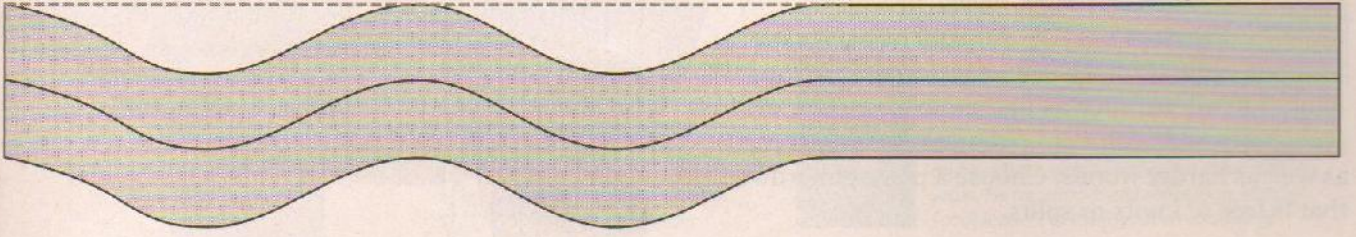
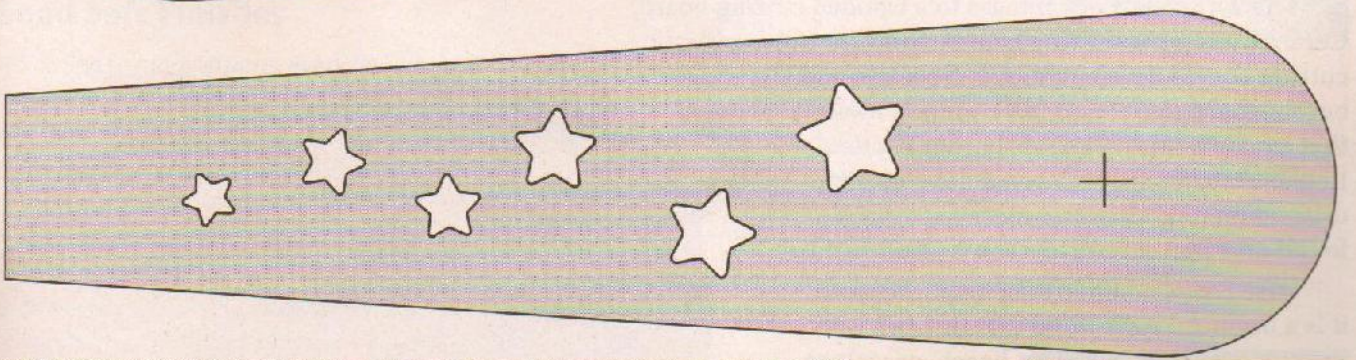
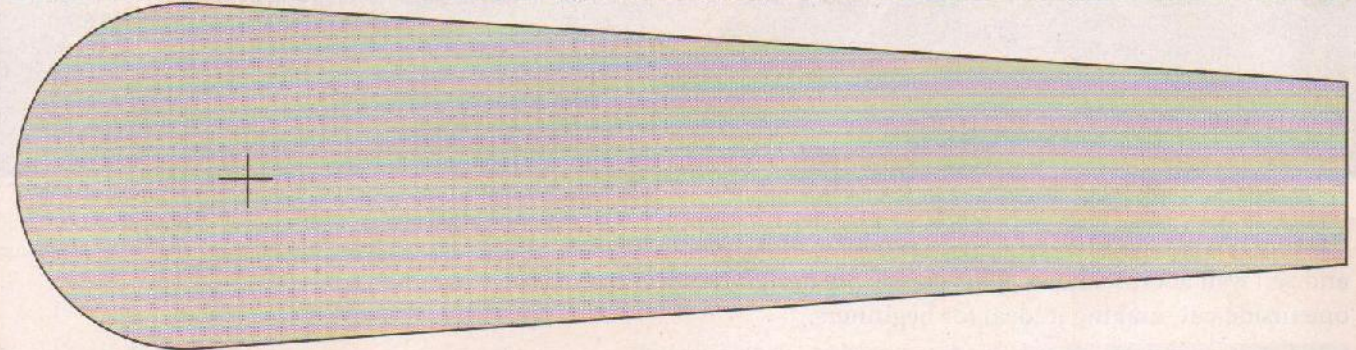
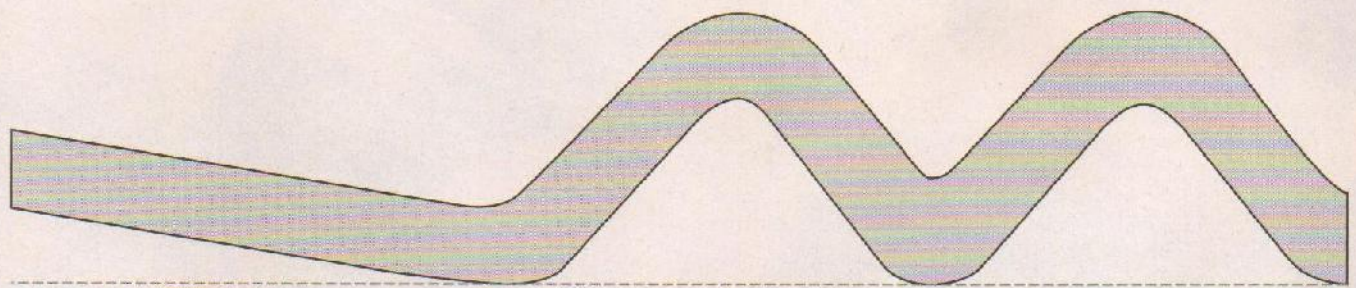
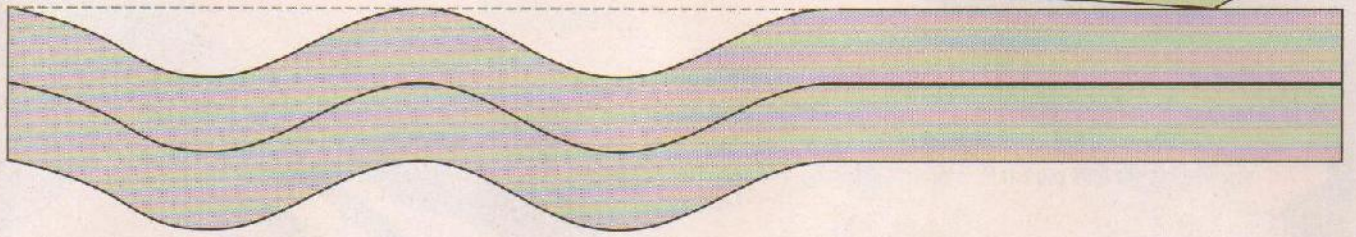
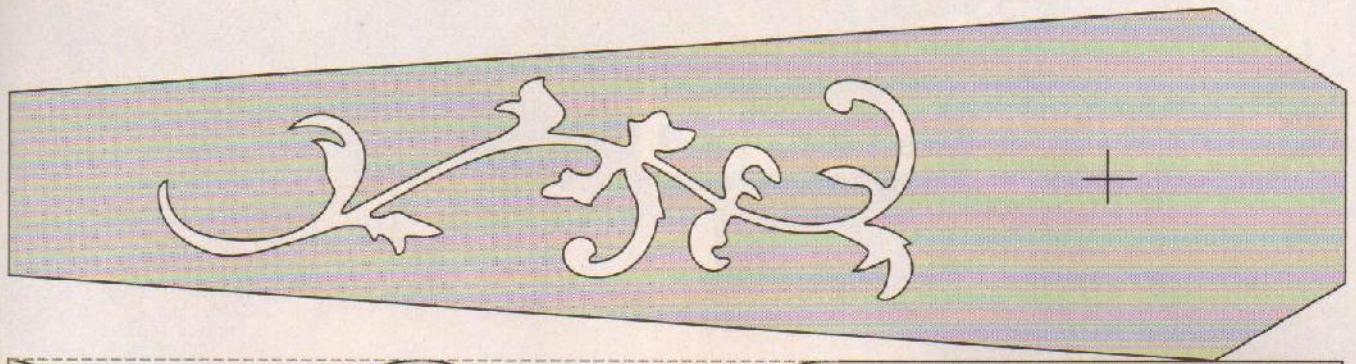
- #7 or #9 skip-tooth blades or blades of choice
- Drill
- Forstner bit sized to fit your clock insert
- $\frac{1}{8}$ "- and $\frac{1}{16}$ "-diameter drill bits

Sue Mey lives in Pretoria, South Africa. To see more of her work or for pattern-making tutorials and a wide variety of patterns available to purchase, visit www.scrollsawartist.com.

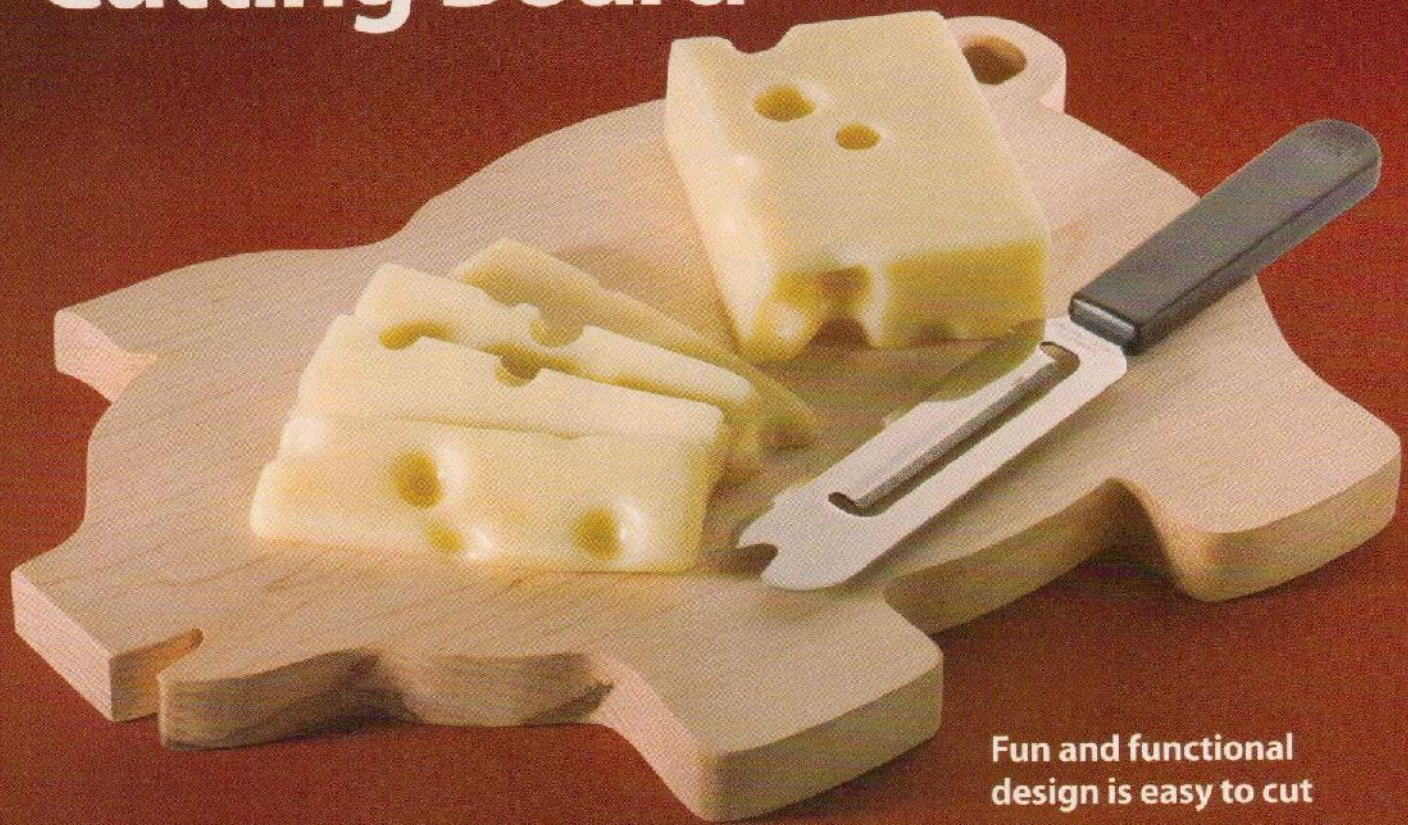


Mini-clock patterns





Making a Simple Cutting Board



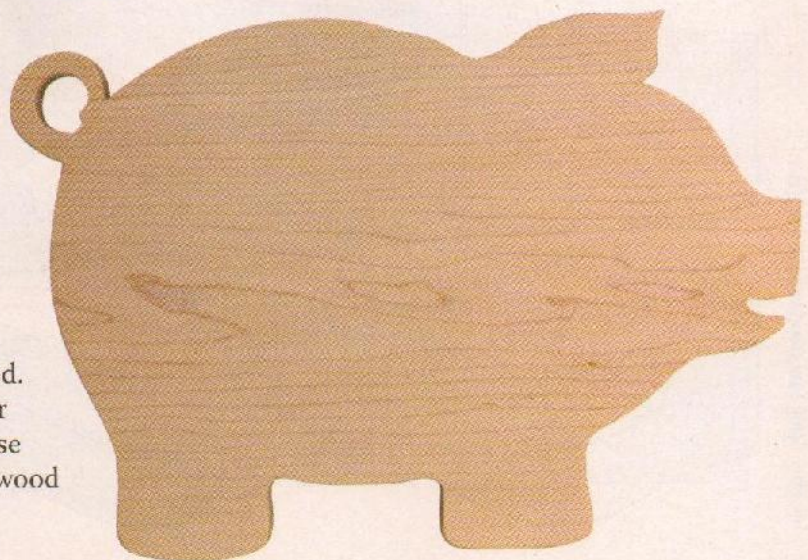
Fun and functional design is easy to cut

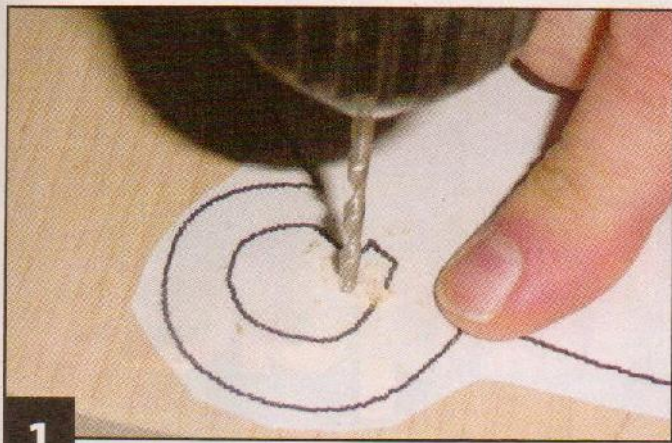
By Dave Van Ess

Cutting boards are fun and easy to produce, make practical gifts, and sell well at craft shows. This classic pig design requires only one inside cut, making it ideal for beginners.

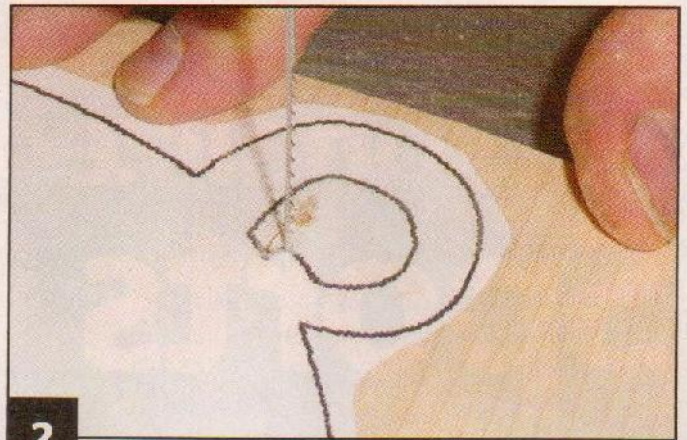
There are many advantages to a wooden cutting board. Ceramic and glass cutting boards dull your knives. Plastic cutting boards develop grooves from use and become hard to clean. It is a common myth that wooden cutting boards harbor bacteria. In fact, researchers discovered after normal use and manual cleaning, more bacteria is found on a plastic surface than a wood surface.

I use Eastern hard (rock) maple because it is a beautiful light wood that finishes well. Fruitwoods, such as cherry, beech, or walnut, will also work. I do not recommend oak since it contains tannin and can add a bitter taste to food. Avoid softwoods, such as fir, hemlock, spruce, or pine. Softwoods will not hold up to prolonged use as well as harder woods. Choose a piece of hardwood that is free of knots or splits.

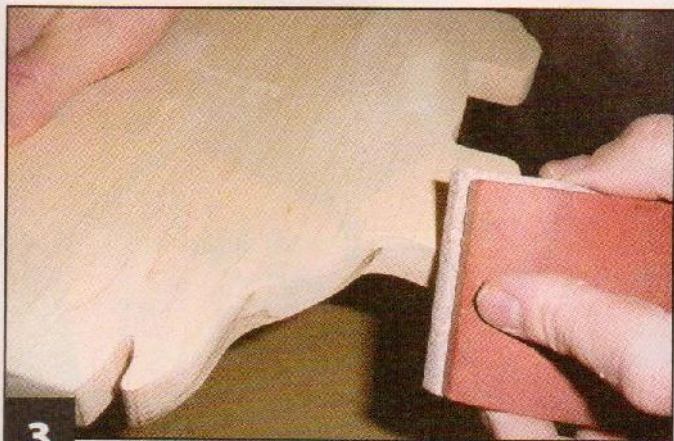




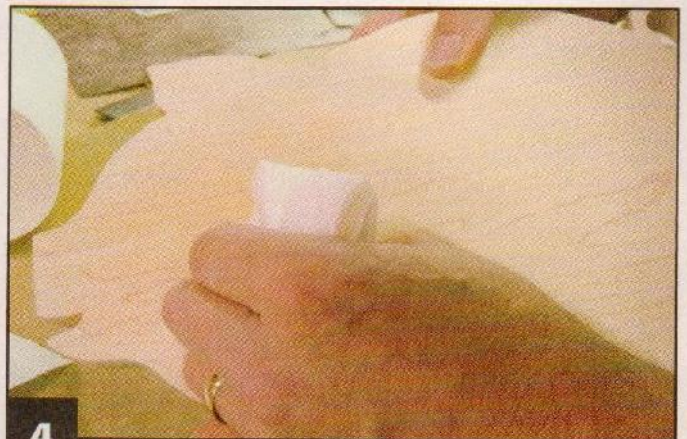
1 Prepare the blank. Attach the pattern to the stock and apply clear packing tape to the top of the pattern to reduce burning. Drill a 1/8"-diameter blade-entry hole for the tail.



2 Cut the pig. Thread an Olson #9 PGT blade or your blade of choice through the blade-entry hole and cut the hole inside the tail. Cut along the perimeter of the pig with the same blade.



3 Sand the cutting board. Sand the flat surfaces with 120-grit sandpaper. I use a rubber sanding block. Use the sanding block to sand the edges. Sand the tight corners with a piece of sandpaper folded up to form a small pad.



4 Apply the finish. I use a wax-based salad bowl finish. Paraffin oil or mineral oil are also good choices. Use a soft cloth on the flat surfaces and a small brush for tight corners. Apply the finish liberally, wipe off the excess, and rub the finish to a high luster.

Food Safe Finishes

According to many experts, every finish is food-safe after it fully cures. If you have concerns about the safety of a finish, you have several options:

- **No Finish:** Clean the board as needed and sand off any resistant stains.
- **Natural drying oils:** Apply a natural oil, such as pure tung oil or walnut oil.
- **Beeswax:** sold in several consistencies, heat the beeswax lightly in a microwave to make it easier to apply.
- **Mineral oil or paraffin oil:** Available in most drug stores, reapply the oil as the finish wears off.

Materials & Tools

Materials:

- 1" x 10" x 14" hard maple or hardwood of choice
- Mineral oil, paraffin oil, or wax-based salad bowl finish (available in wood-working and kitchen supply stores)
- 120-grit sandpaper

Tools:

- Olson #9 PGT blades or blades of choice
- Drill with 1/8"-diameter drill bit
- Sanding block
- Brushes and rags (to apply finish)

Pattern for the **SIMPLE CUTTING BOARD** is in the pattern pullout section.

ONLINE BONUS

This pattern available as a downloadable file on our website.
www.woodcarvingillustrated.com



Dave Van Ess of Arlington, Wash., is an engineer and has been woodworking for more than 30 years. He has introduced more than 200 Cub Scout leaders to the joys of scroll sawing.

Personalized Sports Plaques

Customize special interest designs with easy inlay techniques

By James Collins

Process photography by Marci Bileau

The inspiration for this project originated with a gift for my grandnephew Zachary's first birthday. I wanted to make something he would treasure for years to come. I settled on a personalized baseball plaque. When his brother, Tyler, was born, I designed a football name plaque. I then realized I was neglecting my nieces and set out to create projects for them. The gymnast, soccer ball, and ballet slippers round out the design choices, providing plaques suitable for a variety of interests.

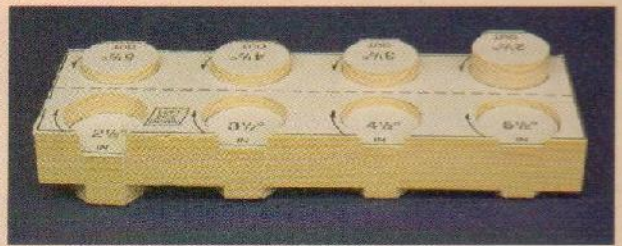
Depending on the design and font you choose, you may need to use both forward and reverse inlay cutting techniques. In order to follow the lines, the pattern must be on the top piece of wood. If you want the bottom piece of wood to rise up or come forward into the top piece of wood, use a forward-inlay technique. With a reverse-inlay technique, the wood on top will drop down into the bottom piece of wood. For example, with the ballet slippers, I apply the pattern to the walnut stock and use forward-inlay cutting to bring the lighter wood of the slippers up into the walnut. I then use the reverse-cutting technique to drop the inlay slippers down into the oval butternut plaque.

How the two pieces of wood fit into each other is determined by the combination of table tilt and



cutting direction. You can determine whether the bottom piece slides up into the top piece, or the top piece drops down into the bottom piece by changing the cutting direction. Practice on scrap wood to determine the proper combination of table tilt and cutting direction before beginning the project (see Determining Table Tilt).

Avoid retracing pattern lines by taking the time to plan the sequence of your cuts up front. The patterns include a guideline to help you position the letters. You may need to resize the pattern or letters to accommodate longer names.

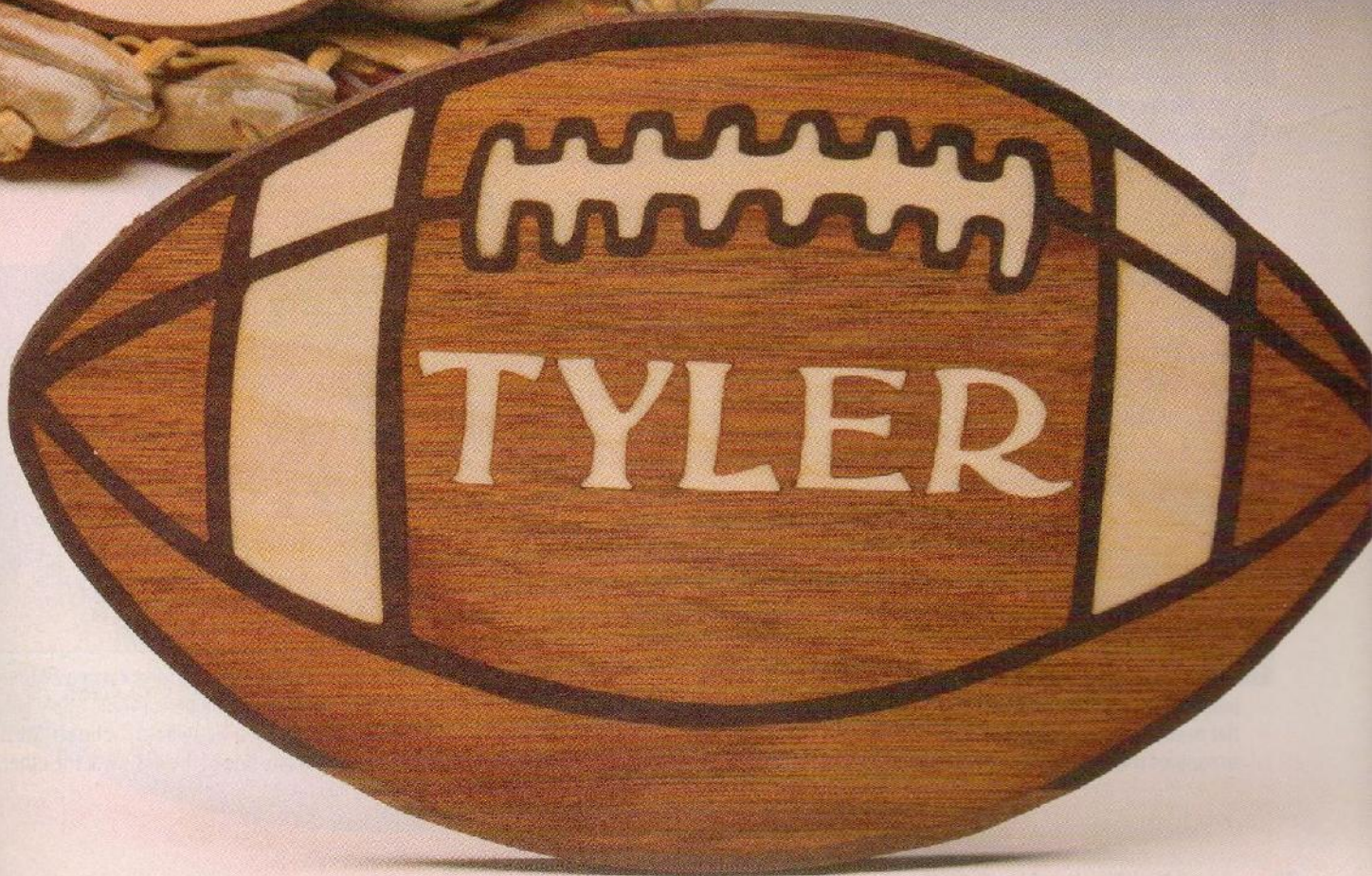
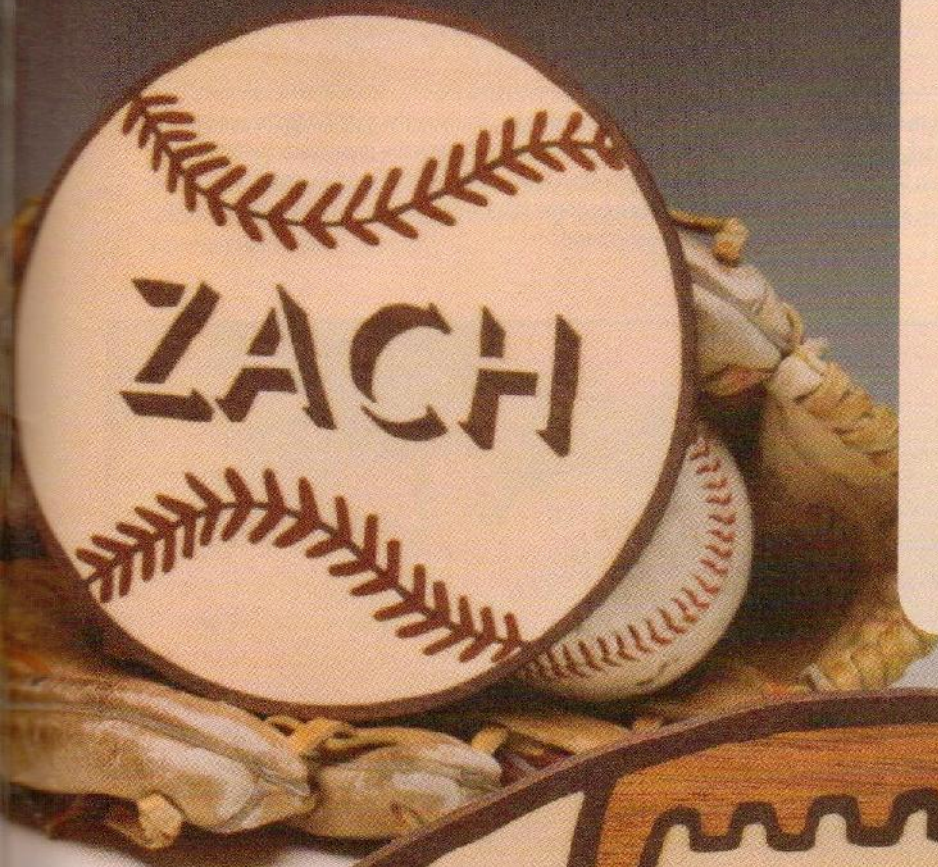


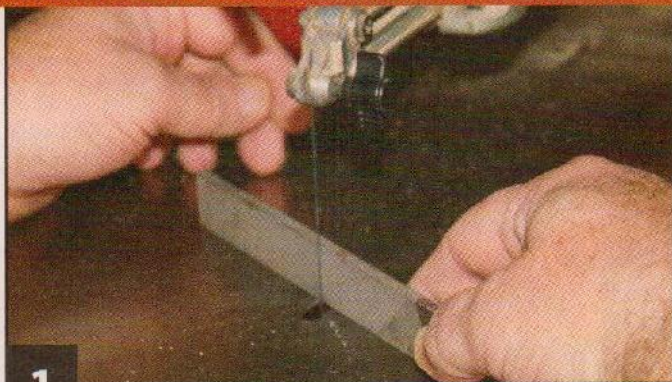
Determining Table Tilt

John A. Nelson developed a relief-cutting gauge to help you set the angle of your saw table (see *SSW&C* #20, Fall 2005 or <http://bit.ly/fj9fe>), but there is no substitute for test cutting to determine the proper table angle and cutting direction.

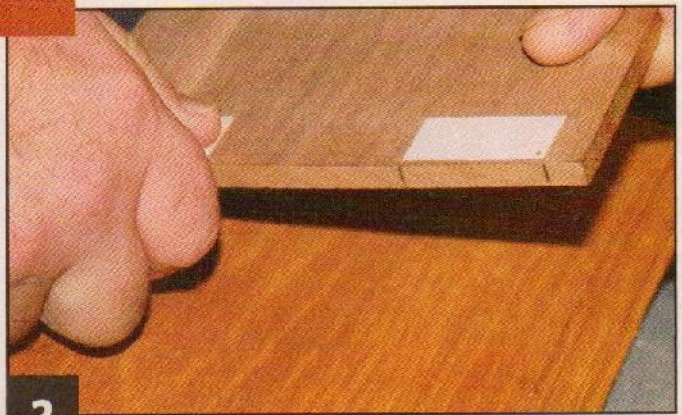
Prepare your stock and cut a few ovals in the scrap wood outside of the pattern. Use the same blade you will use for the project. Tilt your table down $2\frac{1}{2}^{\circ}$ to 3° and cut around the oval. Be sure to note the direction you are cutting. You will get the same result by tilting the opposite side of your table down and cutting in the same direction. You will get the reverse result by leaving the table titled in the same direction and cutting in the opposite direction.

Once you determine which side of the table to tilt for the direction of your cut, adjust the tilt of the table. The inlay should protrude about $1/32$ " from the main stock. Increase or decrease the tilt of the table to achieve the proper fit.

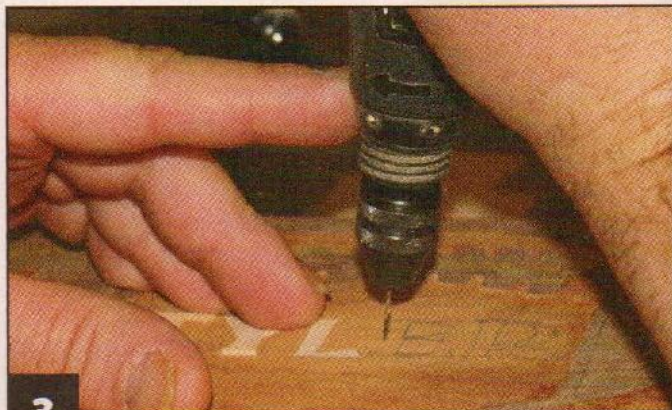




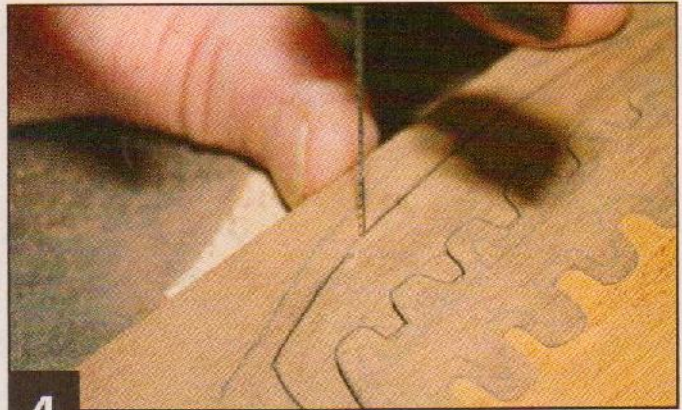
1 Prepare your equipment. Hold a metal file against the back of your blade and turn your saw on. This rounds the back of the blade to make tight turns easier. Pay particular attention to the corners to make turns easier. Add a zero clearance insert, such as a business card taped to your saw table.



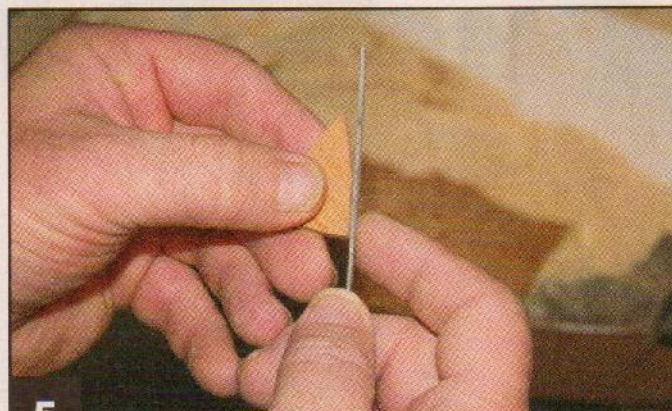
2 Prepare the blanks. Transfer the pattern to the walnut using your method of choice. Attach the mahogany to the back of the walnut with a few small pieces of double-sided tape. Keep the tape outside of the inlay areas. Clamp the pieces together to ensure a good bond.



3 Drill the blade-entry holes. Drill at an angle a bit steeper than the angle the table is tilted. Only drill the blade-entry holes for the mahogany inlays. Tilt the table on your drill press or create an angled auxiliary table (see page 56). This technique places the blade-entry holes in the waste so they are not visible in the final project (see Hiding Blade-Entry Holes).



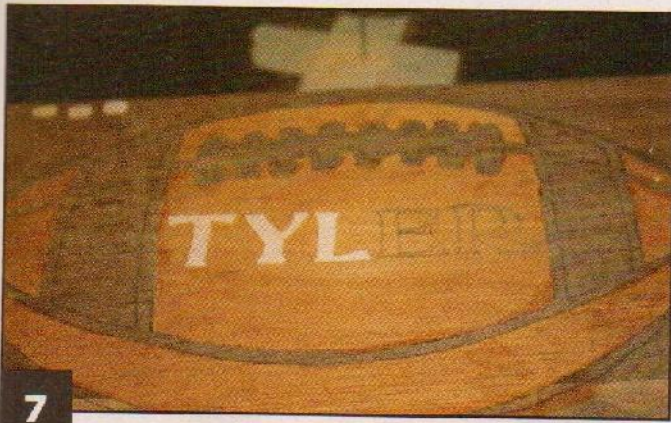
4 Cut the mahogany inlays. Determine the table tilt and cutting direction (see Determining Table Tilt). Insert the blade and cut the mahogany inlays. Avoid pushing the wood too hard, which would cause the blade to bow. When you come to the end of a section, concentrate on meeting the line you've already cut rather than following the pattern line.



5 Check the fit of the inlay pieces. Each time you cut an inlay, check it for fit and file off any burrs left by the drill bit with a flat needle file. Insert the mahogany inlay pieces into the walnut to support the fragile areas while you cut the remaining sections.

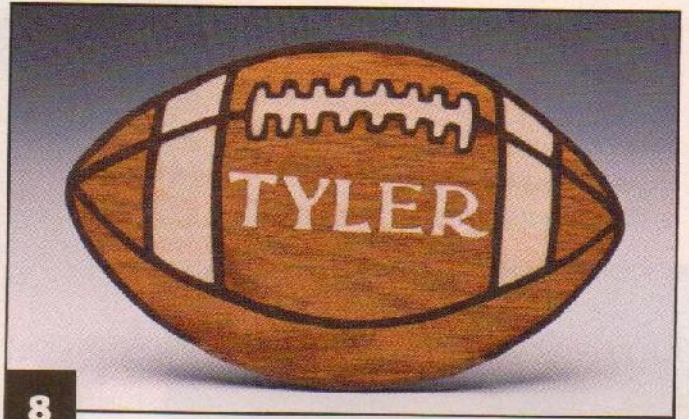


6 Glue the mahogany to the walnut. After cutting all of the pieces, carefully separate the stack with a bench knife. Apply glue to the edges of the inlay pieces with a 1/2"-wide artist brush. Press the pieces in place. Work from one side of the design to the other.



7

Cut the aspen inlays. Allow the glue to dry for three hours and then sand the back of the design flat before attaching the aspen with double-sided tape. Drill the next set of blade-entry holes and repeat the previous steps to inlay the aspen into the mahogany and walnut design.

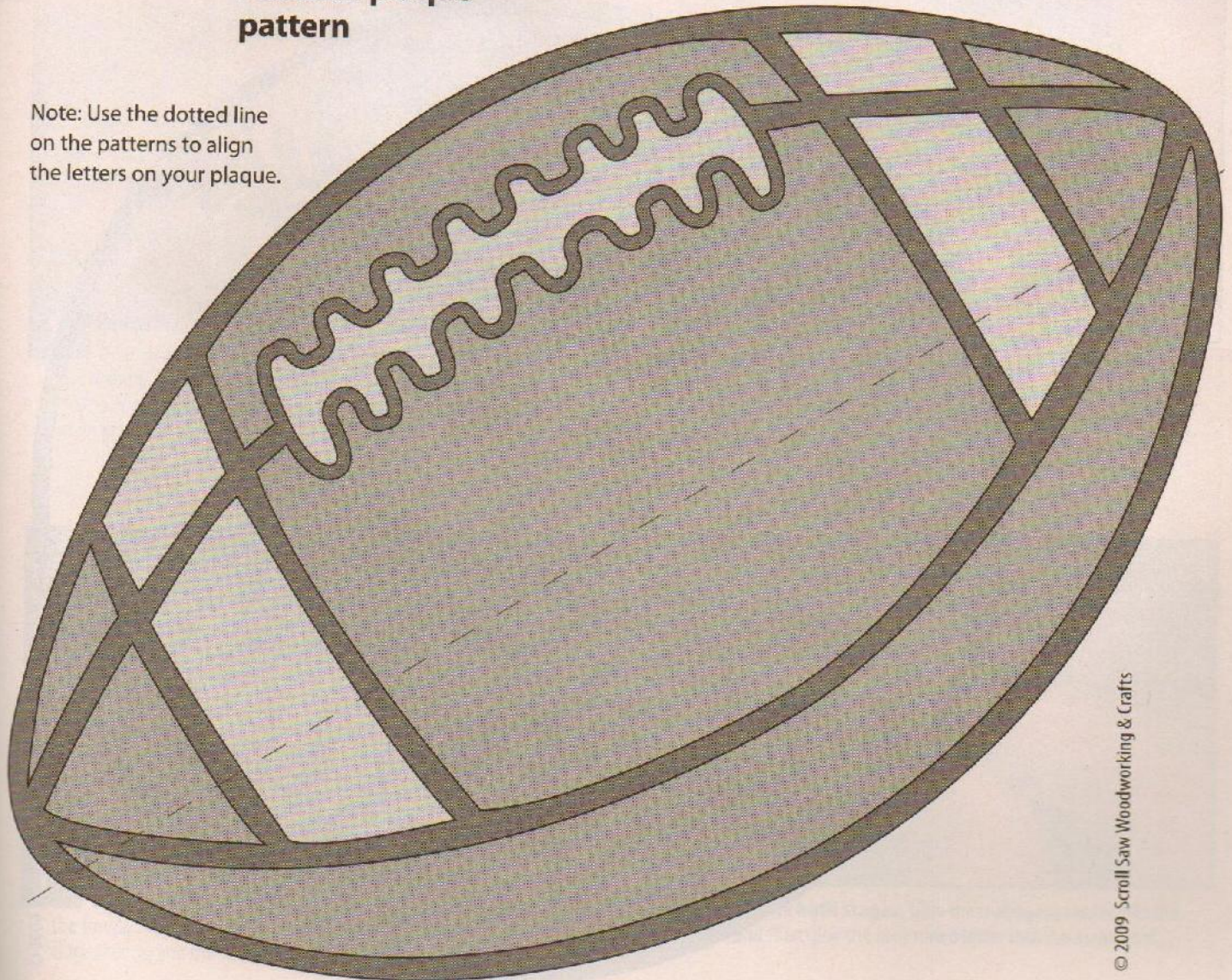


8

Finish the plaque. Allow the glue to dry thoroughly. Sand the piece with progressively finer sandpaper up to 220 grit. Sign the back of your project and apply a clear finish such as lacquer. When the finish is dry, attach your hanger of choice.

Football plaque pattern

Note: Use the dotted line on the patterns to align the letters on your plaque.



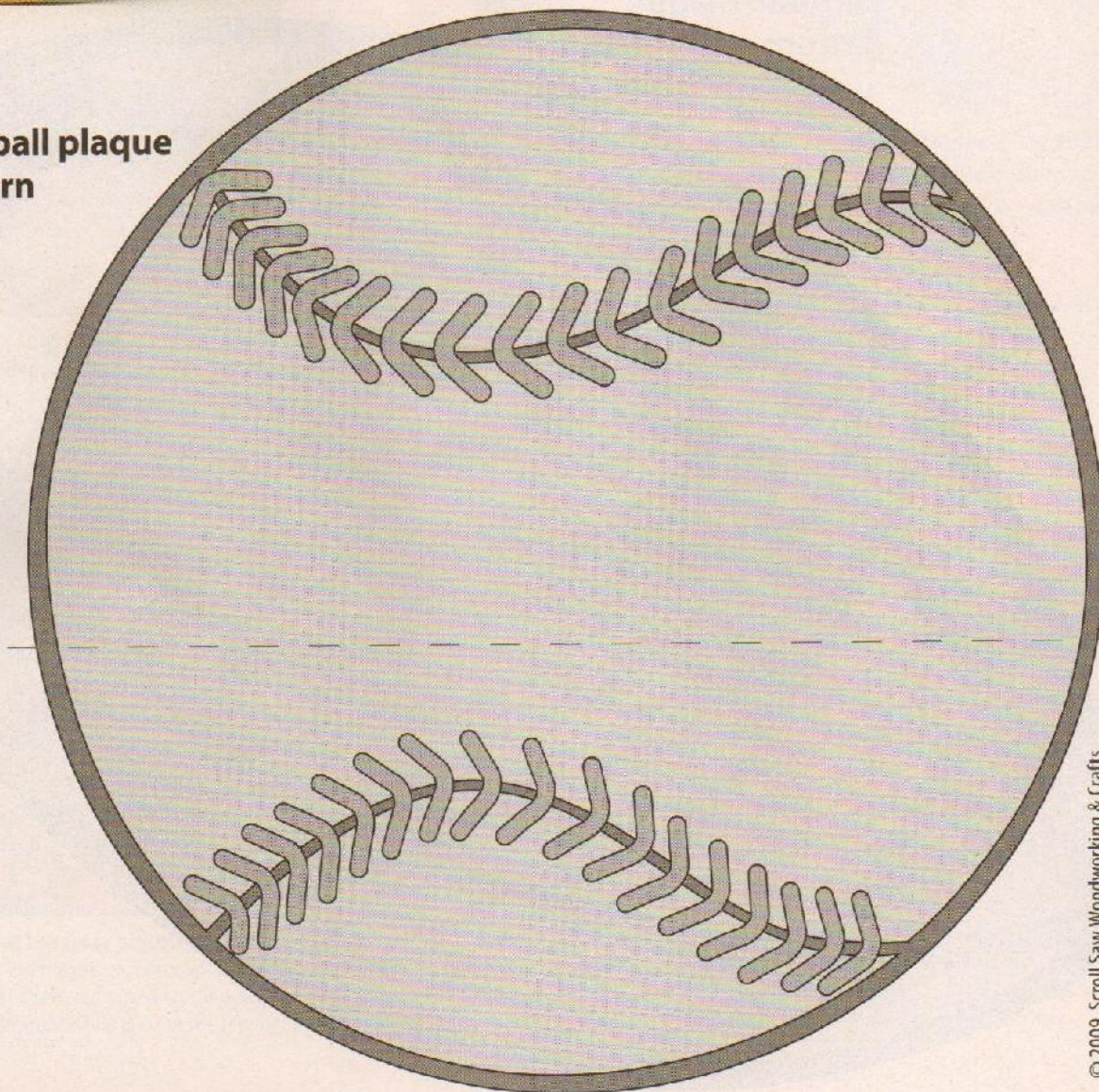
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Extend the balance beam to accommodate a longer name on the gymnast plaque.



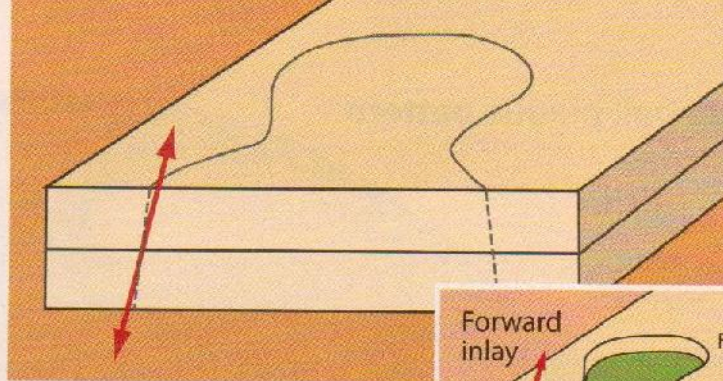
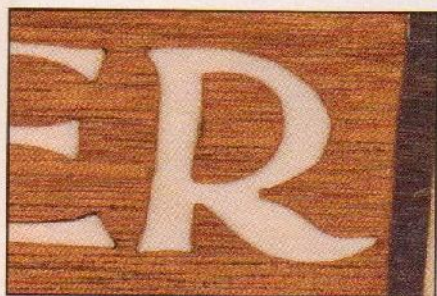
Inlay the aspen and walnut slippers first. Then reverse inlay the slippers into the butternut plaque.

Baseball plaque pattern



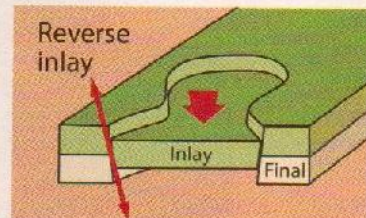
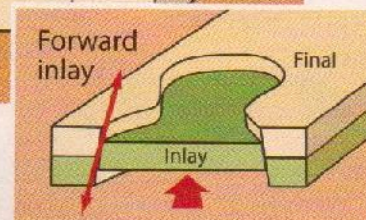
Two-stage Inlays

If you are using a font with closed centers, such as the R in Tyler, you must cut the closed letters in two stages. The center of the R must match the stock surrounding the R. The font provided on the pattern pullout section is courtesy of Sylvia Mendiola and does not require this technique.



Hiding Blade-Entry Holes

Drill the blade-entry holes at an angle to hide them in the finished project. Angle the drill bit so the hole is in the waste portion of the wood on both the top layer and the bottom layer. You will still be drilling at the same angle for a forward or reverse inlay, just in the opposite direction.

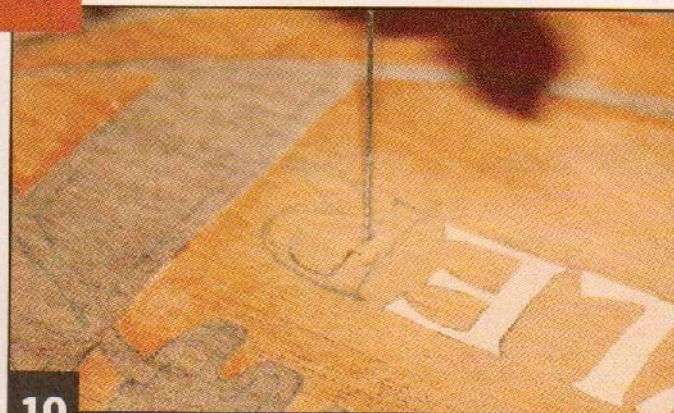


SPORTS PLAQUES: CUTTING TWO-STAGE INLAYS



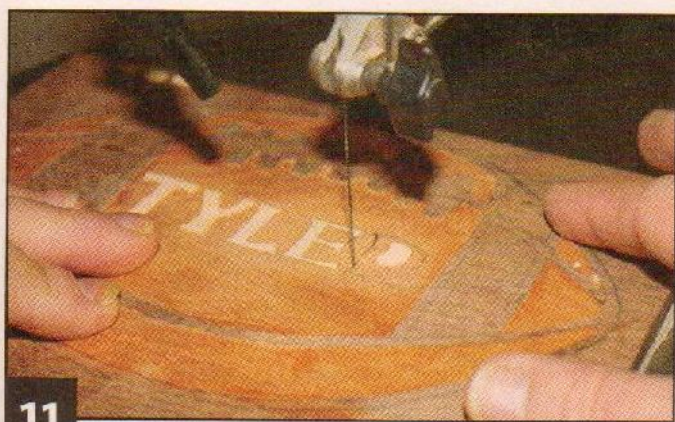
9

Drill the blade-entry hole. With the aspen stacked below the mahogany, drill the blade-entry hole (see Hiding Blade-Entry Holes). Make sure you are drilling on the waste side of both the main layer and the inlay layer.



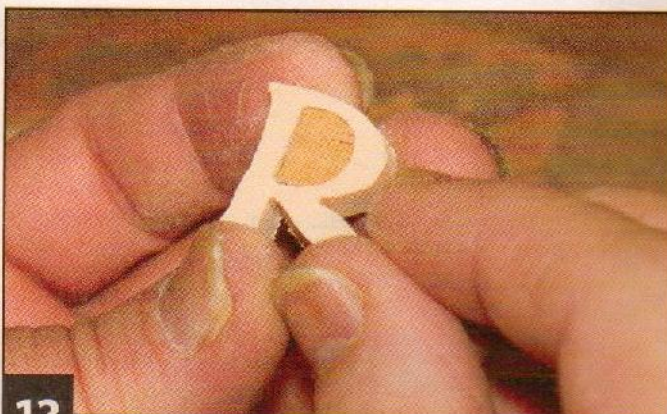
10

Cut the reverse inlay. Do not change the tilt of the table. Cut in the opposite direction to drop the center of the R down into the aspen. Use the aspen scrap from the bottom to snug the mahogany center of the R down into the place.



11

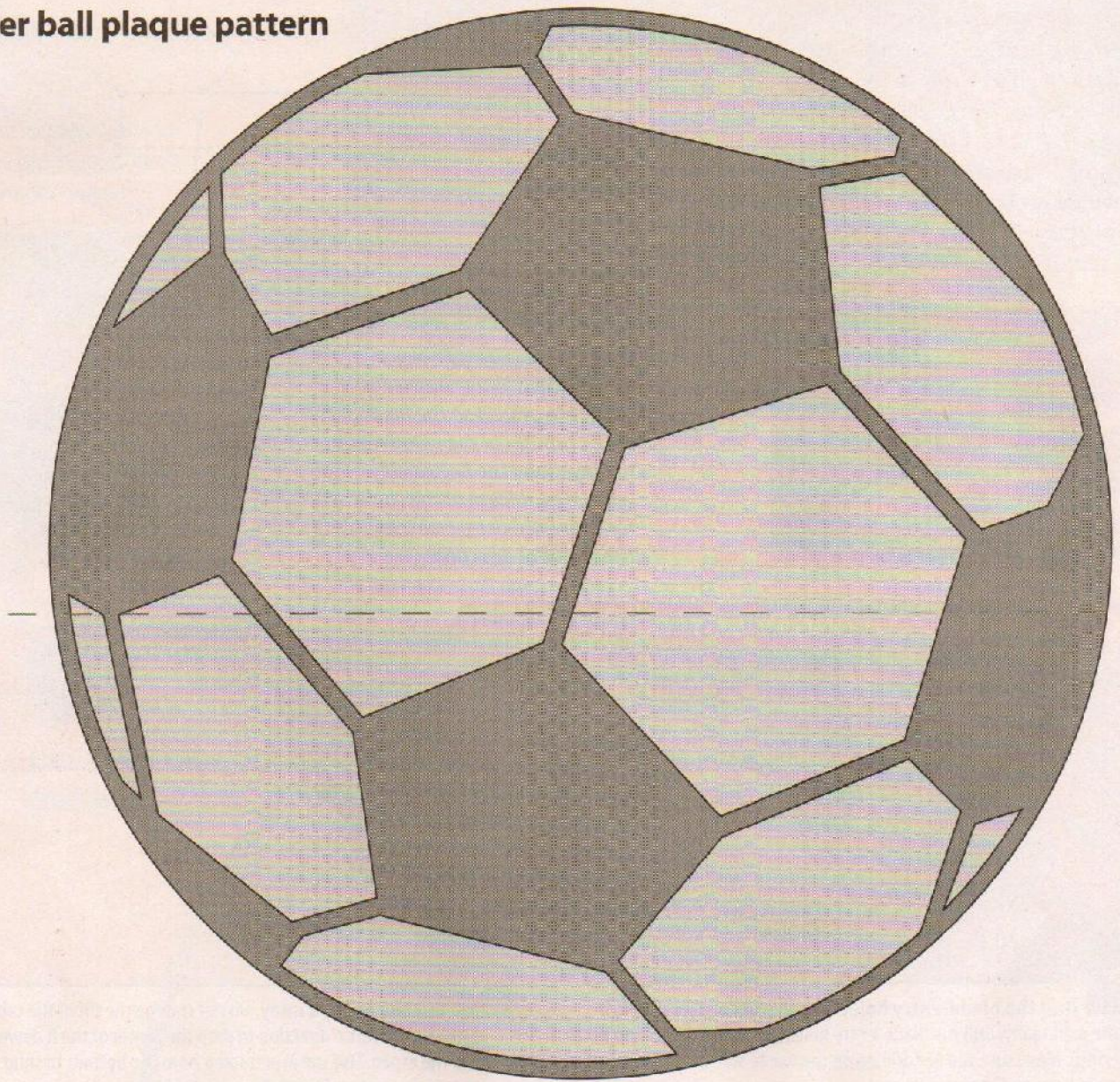
Cut the rest of the letter. Cut the outline of the R using the forward inlay technique. Remove the burrs from both the closed center and the main letter.



12

Assemble both stages. Glue the mahogany center into the aspen R and then glue the assembled letter into the main stock.

Soccer ball plaque pattern



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Materials:

- ¼" x 6" x 9" walnut, aspen, and light mahogany (football)
- ¼" x 6¼" x 6¼" walnut, aspen, and mahogany (baseball)
- ¼" x 6½" x 6½" walnut, aspen, and butternut (soccer ball)
- ¼" x 6" x 7" walnut and butternut (gymnast)
- ¼" x 6¾" x 15" walnut, aspen, basswood, and butternut (ballet slippers)
- Tracing paper, carbon or transfer paper, or spray adhesive
- Double-sided tape

Materials & Tools

- Wood glue
- Clear lacquer or finish of choice
- Hanger of choice

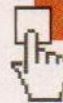
Tools:

- Locking C-clamp
- #5 skip-tooth blades or blades of choice
- Drill with #60 drill bit
- Mill file (round back of the blade)
- Flat needle file (removing wood burrs)
- Bench knife

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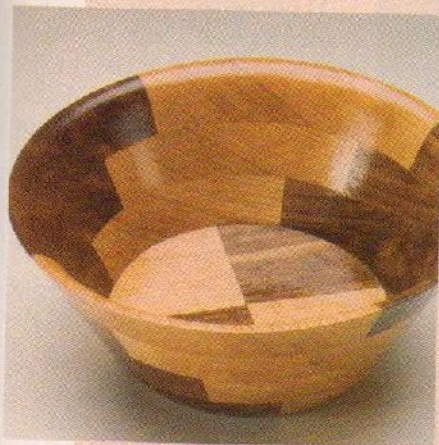


Additional patterns and the font for **SPORTS PLAQUES** are in the pullout section.

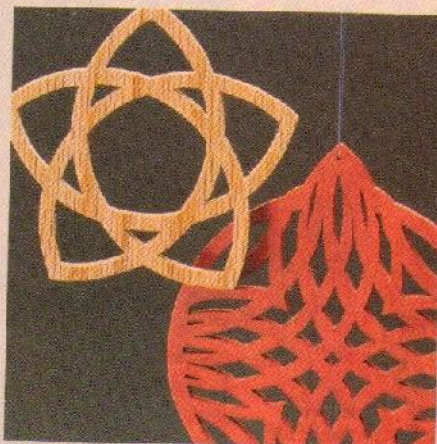


Jim Collins lives in Rhode Island in an apartment turned art studio. Visit Jim's Website, at www.featherwoodcrafts.com or contact him on the Scroll Saw Woodworking & Crafts message board. His user name is JimSawyer.

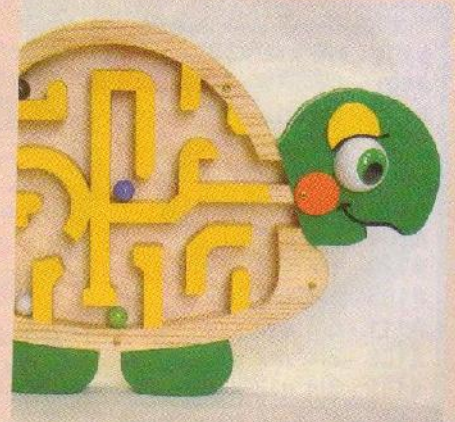
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- #110 - 1/2"x12"x24" -
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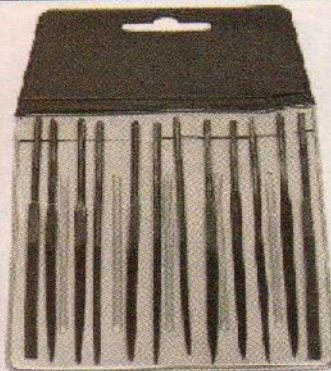


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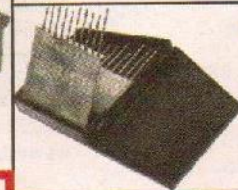
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1+ \$5.25 ~ 10+ \$4.85 ~ 30+ \$4.50
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By Kathleen Ryan

TJ Brown harvested his own wood to create "The Maiden" (pattern by Christina and Wayne Prinn).

From Forest to Frame

For more than 20 years, Arkansas woodworker TJ Brown has created stunning fretwork and intarsia masterpieces. The beauty of the wood is one of the most arresting features of his work. TJ harvests, mills, and dries the wood himself.

A former logger, TJ harvests his wood from trees that were culled or blown down in storms. He power washes the logs to remove any debris and saws them into 1"-thick boards using a portable chainsaw mill he built himself. He then stacks the boards and allows them to dry for a full year.

"I love the challenge of finding the colors I want to use in wood. When I get an idea for a project, I dig through my woodpiles for the right shades and grains," TJ said. "I have all kinds of different exotic woods I've collected over the years.

Some people collect guns; I collect wood. My wife thinks I'm nuts!"

TJ displays his work in high-end art galleries. Some of his pieces adorn the homes of celebrities. Actress Laura Dern proudly displays a walnut eagle with a 30" wingspan that TJ made especially for her.

"TJ's work is absolutely beautiful," Laura said. "I love it! The wood looks like marble."

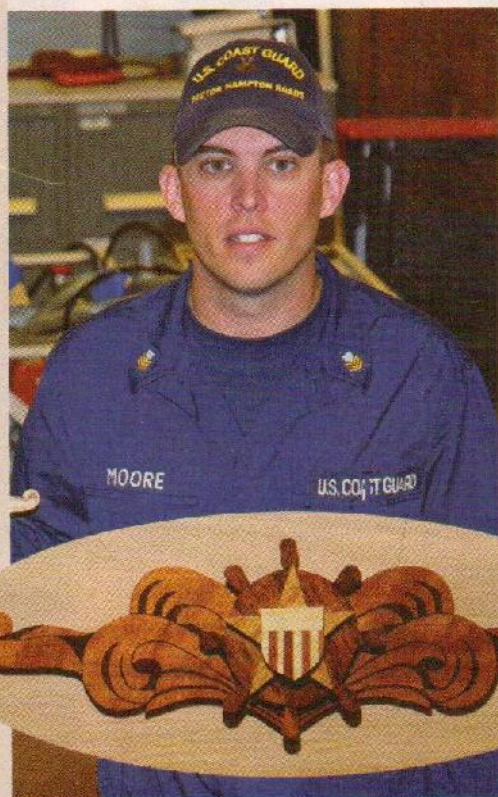
Impressed by the efforts made by Gov. Mike Huckabee after a tornado tore through a neighboring town, TJ made him a thank you gift to express his gratitude. TJ used a salvaged piece of walnut to create an intarsia scene depicting an eagle soaring over a cliff. The cliff is home to a nest of three baby eagles.

"I tried to make it look like the eagle was guarding the nest," TJ said. "The wood from that log had some of the most beautiful grain patterns I have ever seen."



Gov. Huckabee wrote TJ a personal letter saying, "I am proud to be the governor of a state that has such gifted and talented people."

TJ's talent lies not only in his superior craftsmanship, but in his gift for showcasing the natural beauty of wood. For more information, visit TJ Brown's Website at www.tjswoodshop.com.



Petty Officer 1st Class Richard Moore crafted a replica of the Coast Guard Cutterman's pin to personalize new tables for the ship's galley.

Scroll Saw Project Boosts Morale

When Master Chief Petty Officer John Buchanan of the Coast Guard Cutter Cochito out of Little Creek, Va., wanted new tables for the cutter's galley, he put in an order that landed on the workbench of Petty Officer 1st Class Richard Moore.

"Life on a cutter is like one big family and we wanted something to personalize the space a little," said John. "I knew Moore had an interest in woodworking, so we tossed around a few ideas."

They decided to design replicas of the Cutterman's Pin for the center of each table. Although he had never attempted a scroll saw project like this before, Richard jumped right on it.

Richard traced a drawing of the pin onto the wood, and carefully cut

the design from contrasting woods. The wooden replica was glued into a recess in the center of the table and covered with epoxy for protection.

"I had never used that much epoxy to cover a table before. I realized too late that the wood I used was very porous, so it created a lot of bubbles in the first layer," Richard said. "I had guys standing over it with blow dryers trying to get the air bubbles out!"

In the end, Richard produced beautifully handcrafted tables with inlays of the two-dimensional Cutterman's Pin.

"The fantastic work Moore did on those tables definitely added to the morale on the boat," said Chief Petty Officer David J. Galvon.

Contact Petty Officer 1st Class R. Moore at RichardJ.Moore@uscg.mil.

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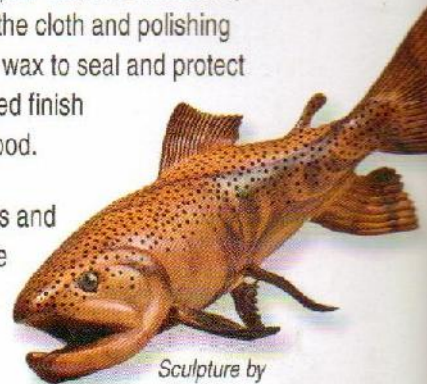
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*Intarsia by
Judy Gale Roberts*



*Sculpture by
Tom Dean*



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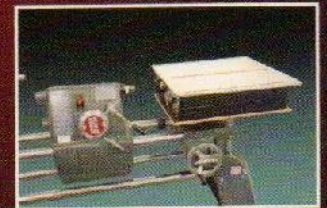
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Woodworking & Crafts

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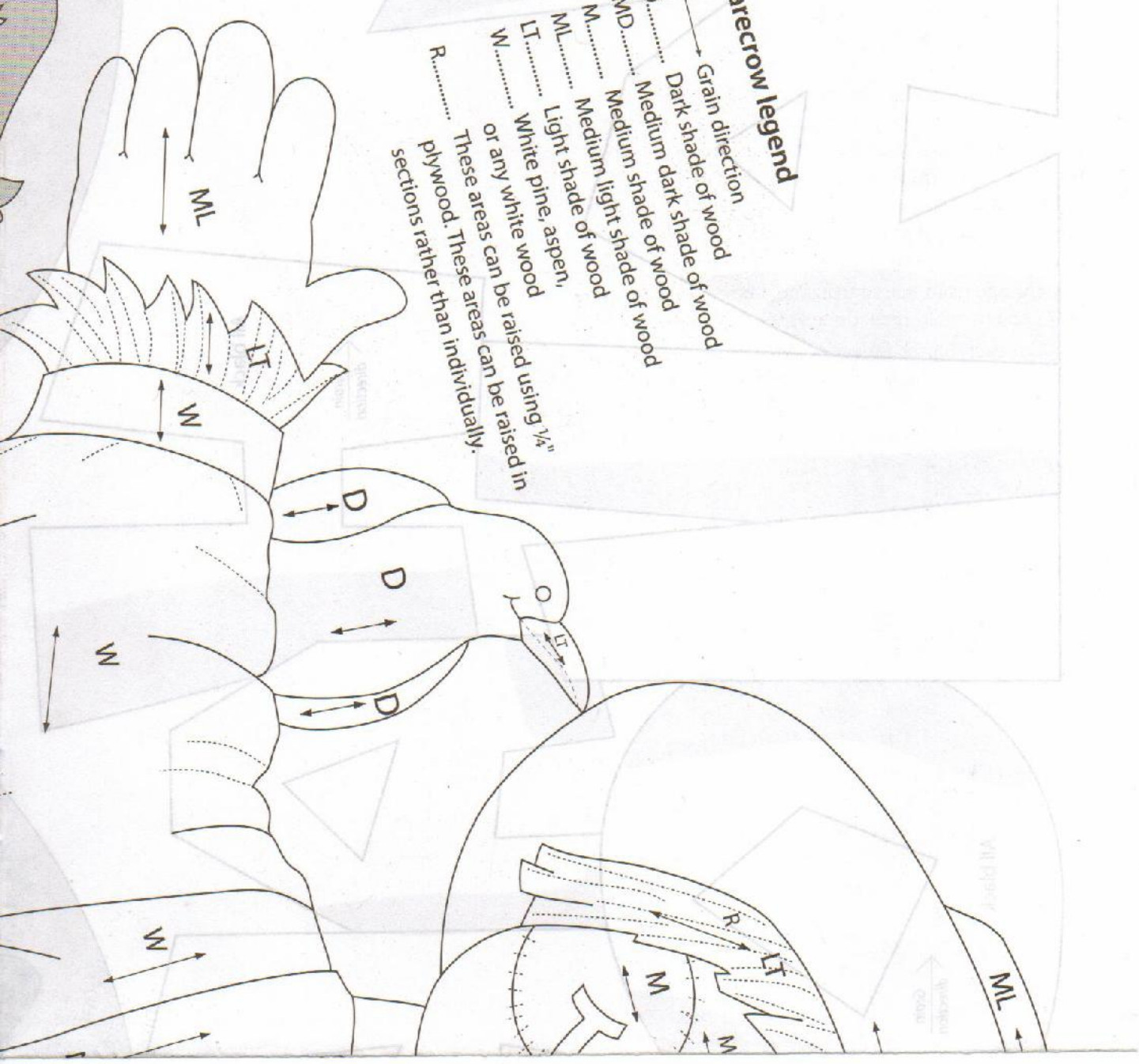
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Handcraft a Horn of Plenty	54		

Note to professional copying services. You may make up to ten copies of these patterns for the personal use of the buyer of this magazine.

Scarecrow legend

- D..... Gain in direction
- D..... Dark shade of wood
- MD..... Medium dark shade of wood
- M..... Medium shade of wood
- ML..... Medium light shade of wood
- LT..... Light shade of wood
- W..... White pine, aspen, or any white wood
- R..... These areas can be raised using plywood. These areas can be raised in sections rather than individually.



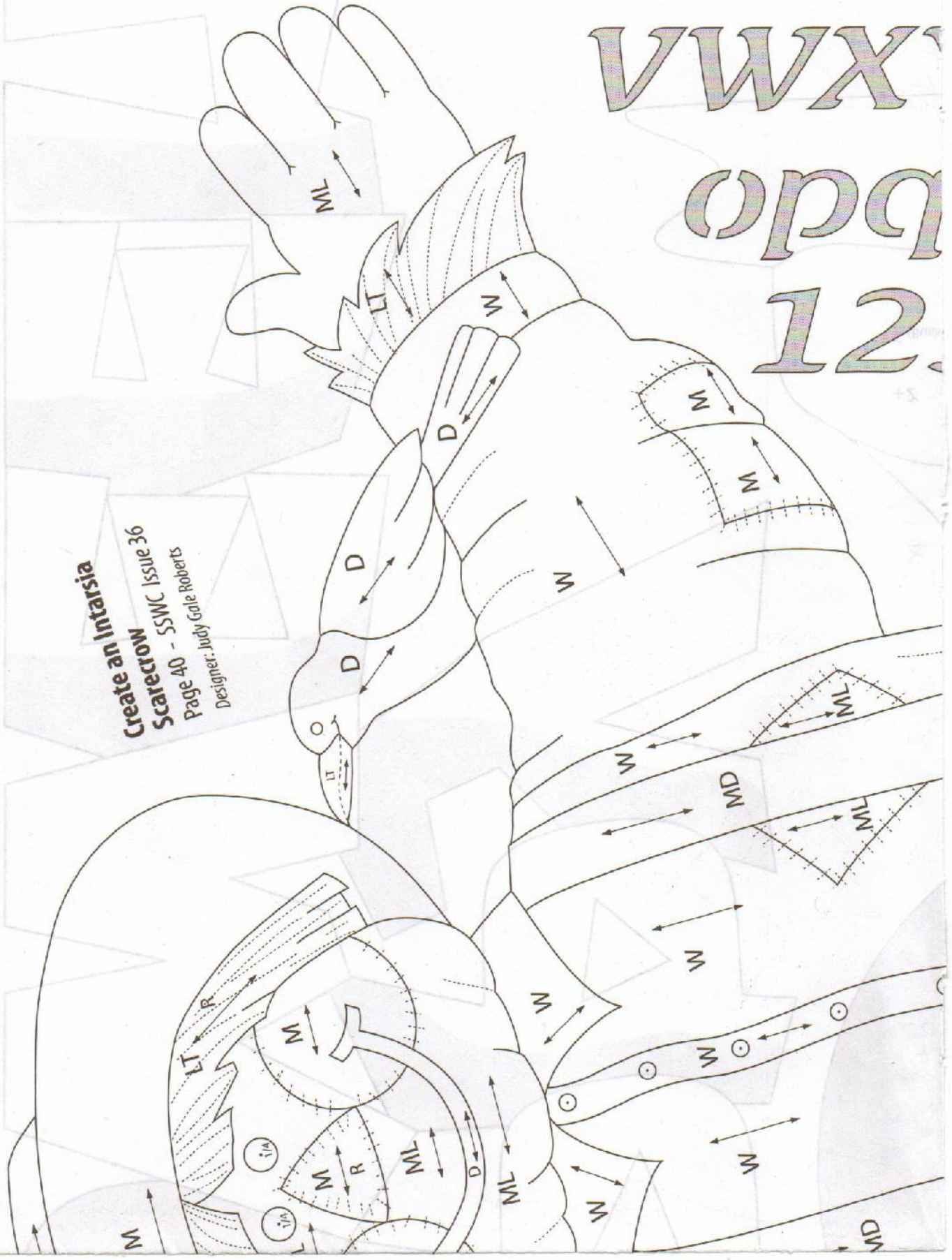
ABCD

VWX

opq

12

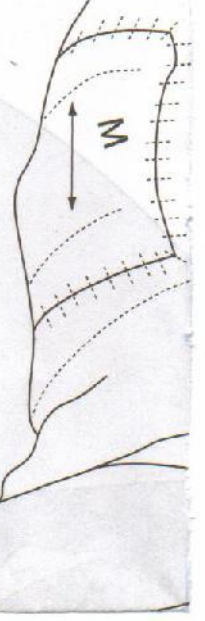
Create an Intarsia
Scarecrow
Page 40 - SSWC Issue 36
Designer: Judy Gale Roberts



ZA



Use a wood-
burner to add
the stitching
details.



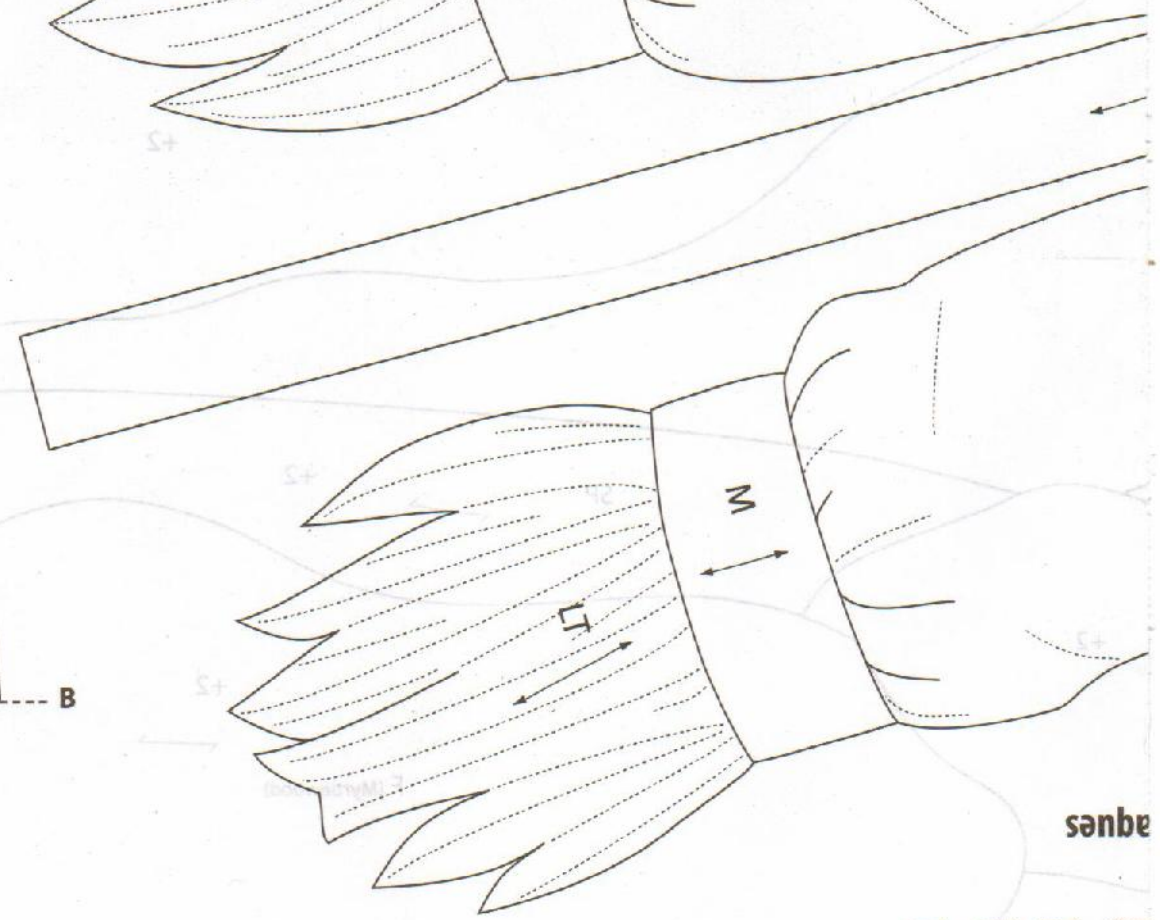
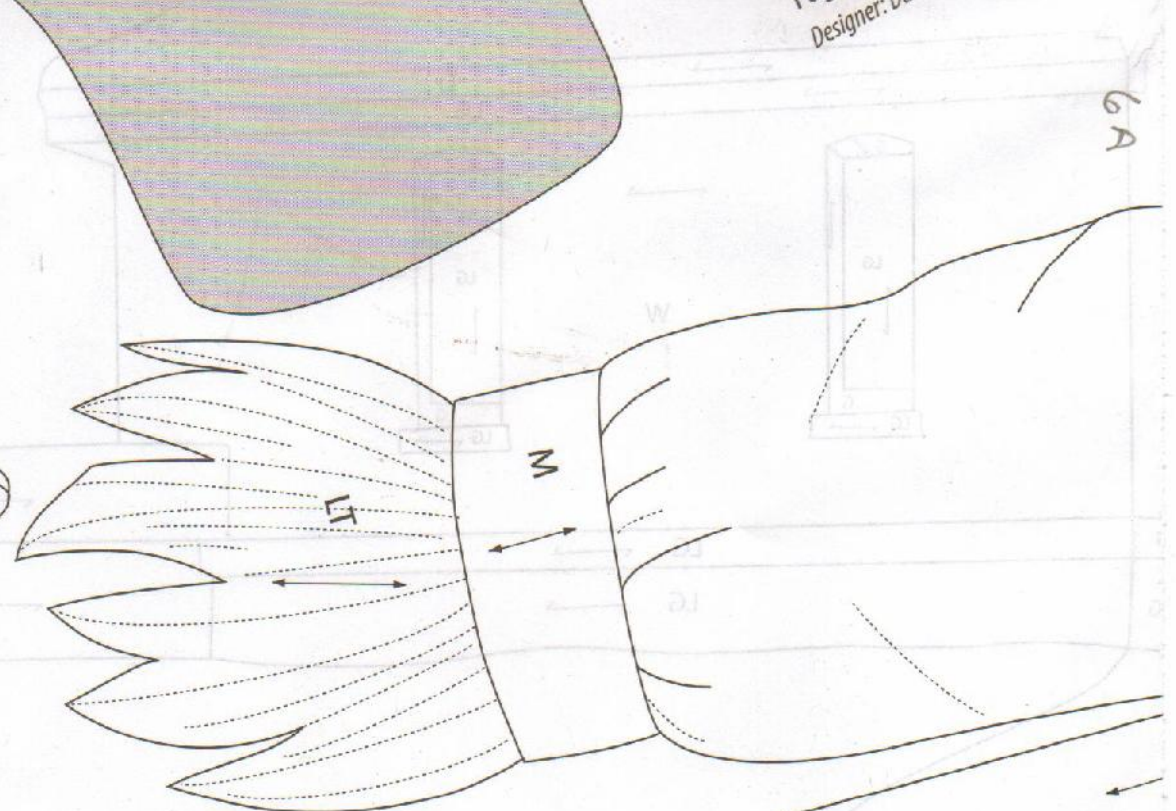
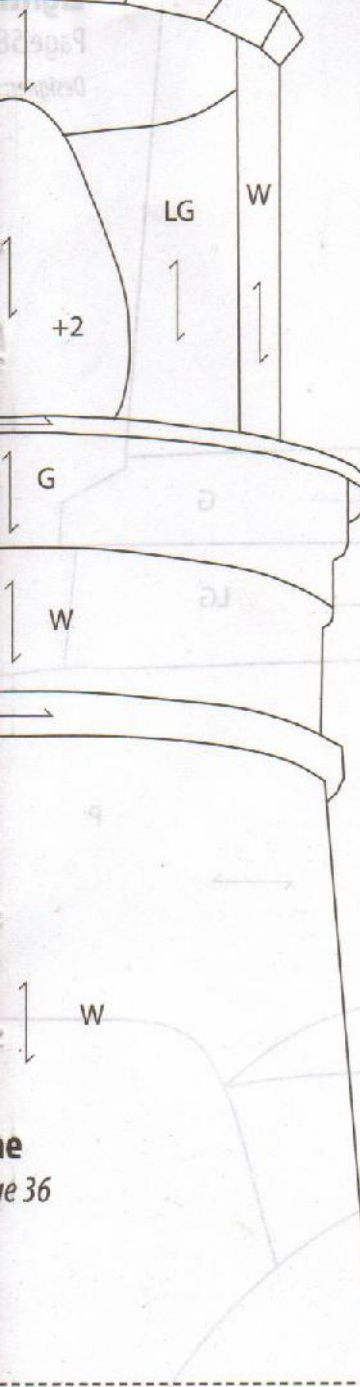
EFGHIJKLMNO
PQRSTUVWXYZ
1234567890

Personalized Sports Pl
Page 70 - SSWC Issue 36
Font Designer: Sylvia Mendiola

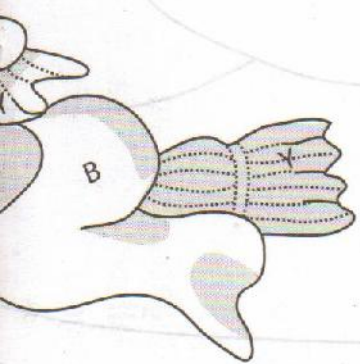




**Frighteningly Fun
Halloween Intarsia**
Page 32 - SSWC Issue 36
Designer: Kathy Wise



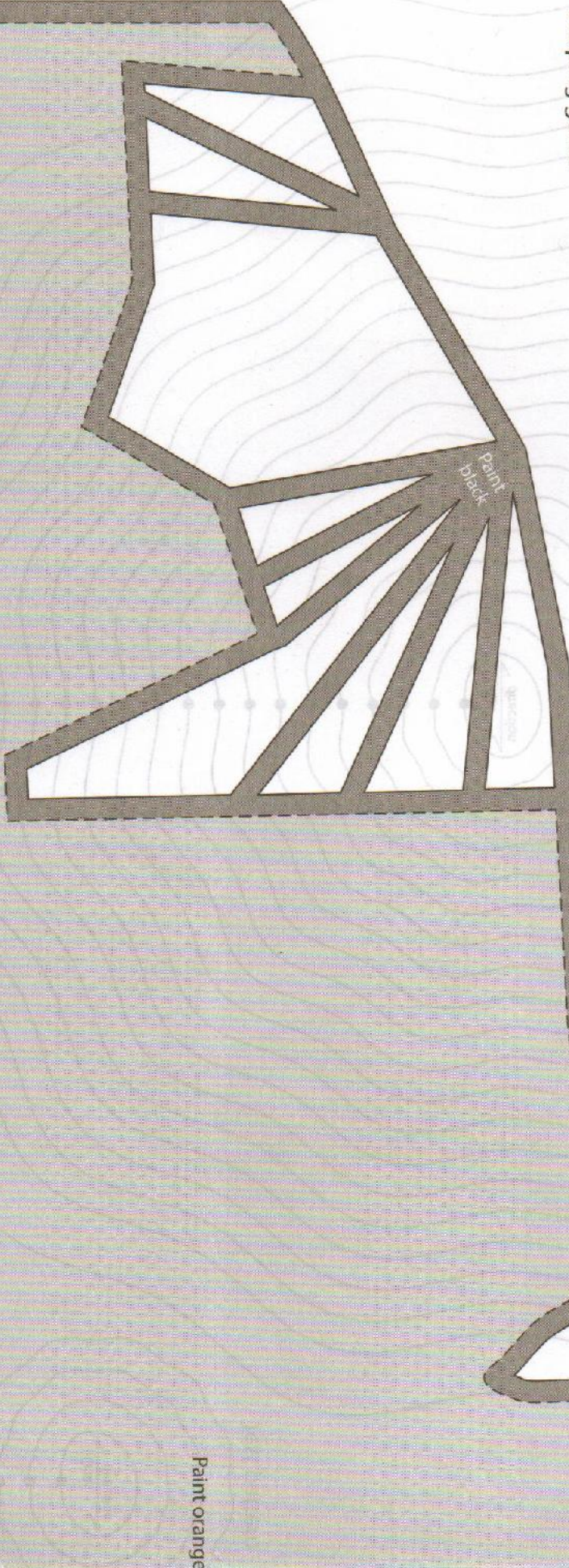
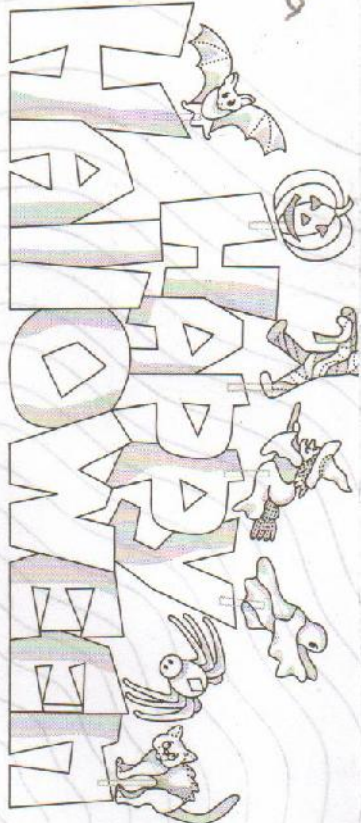
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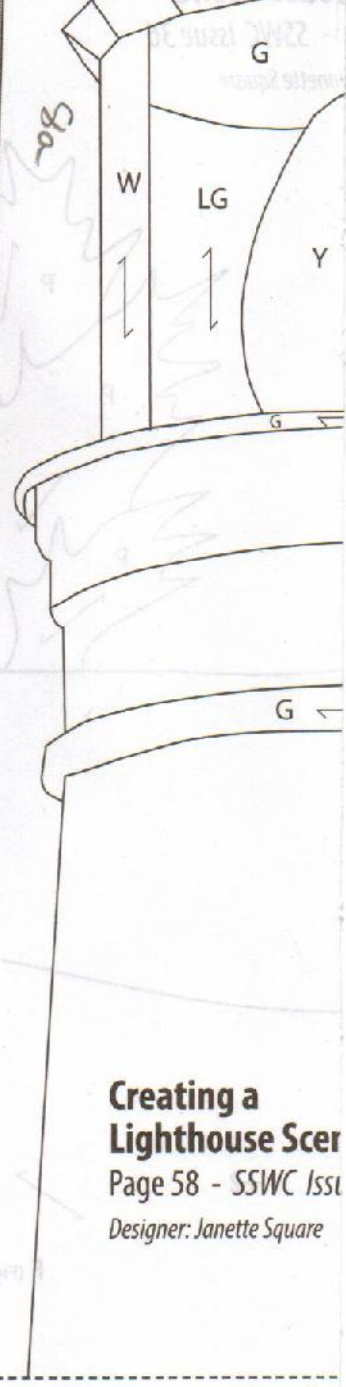
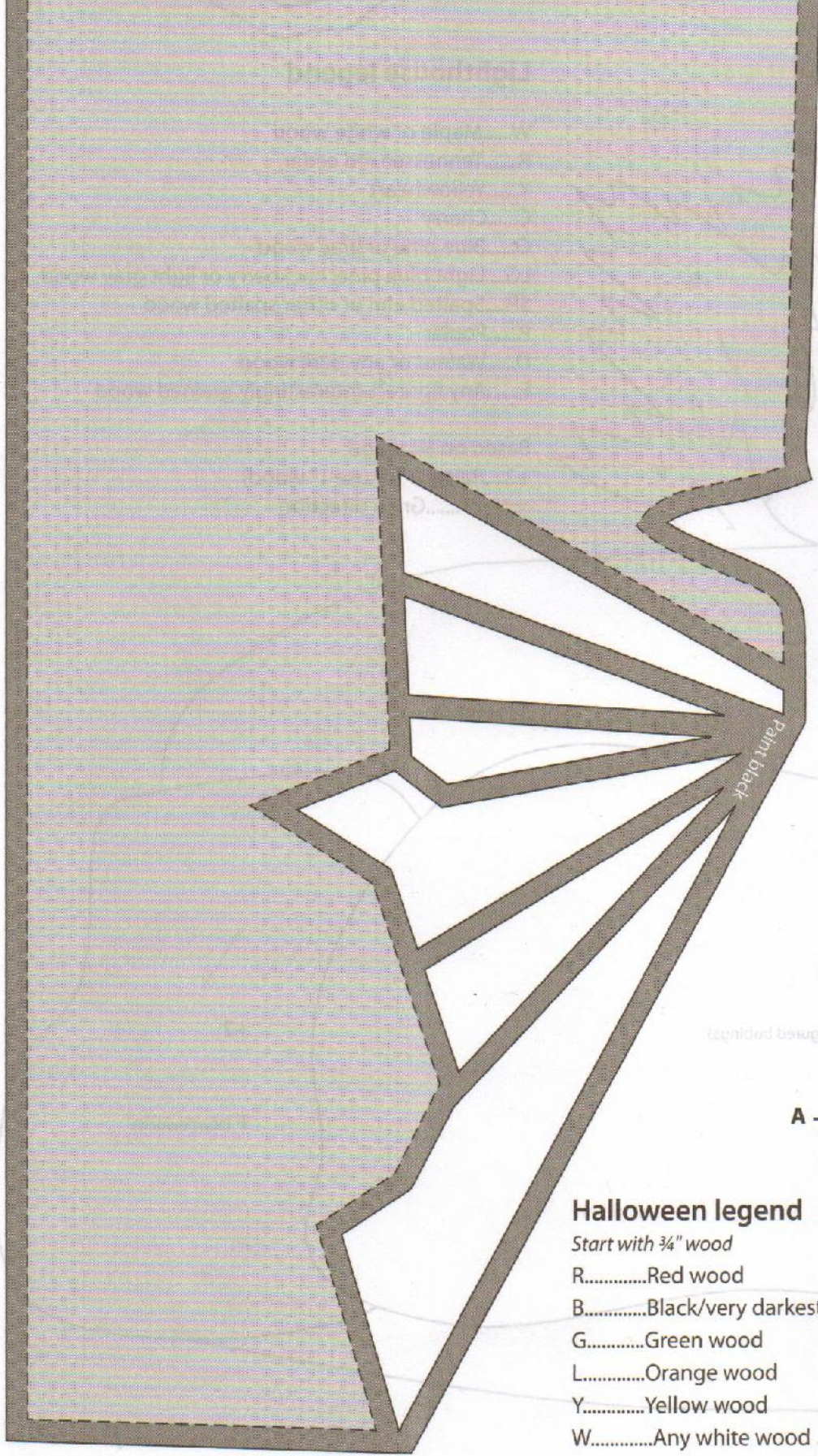
Shaping guide



Paint black

Paint orange



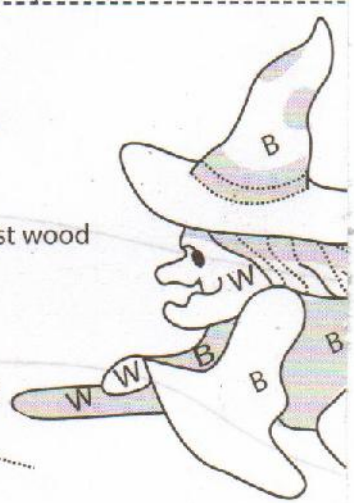


Creating a Lighthouse Scene
 Page 58 - SSWC Issue
 Designer: Janette Square

Halloween legend

- Start with 3/4" wood
- R.....Red wood
- B.....Black/very darkest wood
- G.....Green wood
- L.....Orange wood
- Y.....Yellow wood
- W.....Any white wood

wood burn detail



Frighteningly Fun Halloween Intarsia

Page 32 - SSWC Issue 36

Designer: Kathy Wise

Fall 2009 - Issue 36

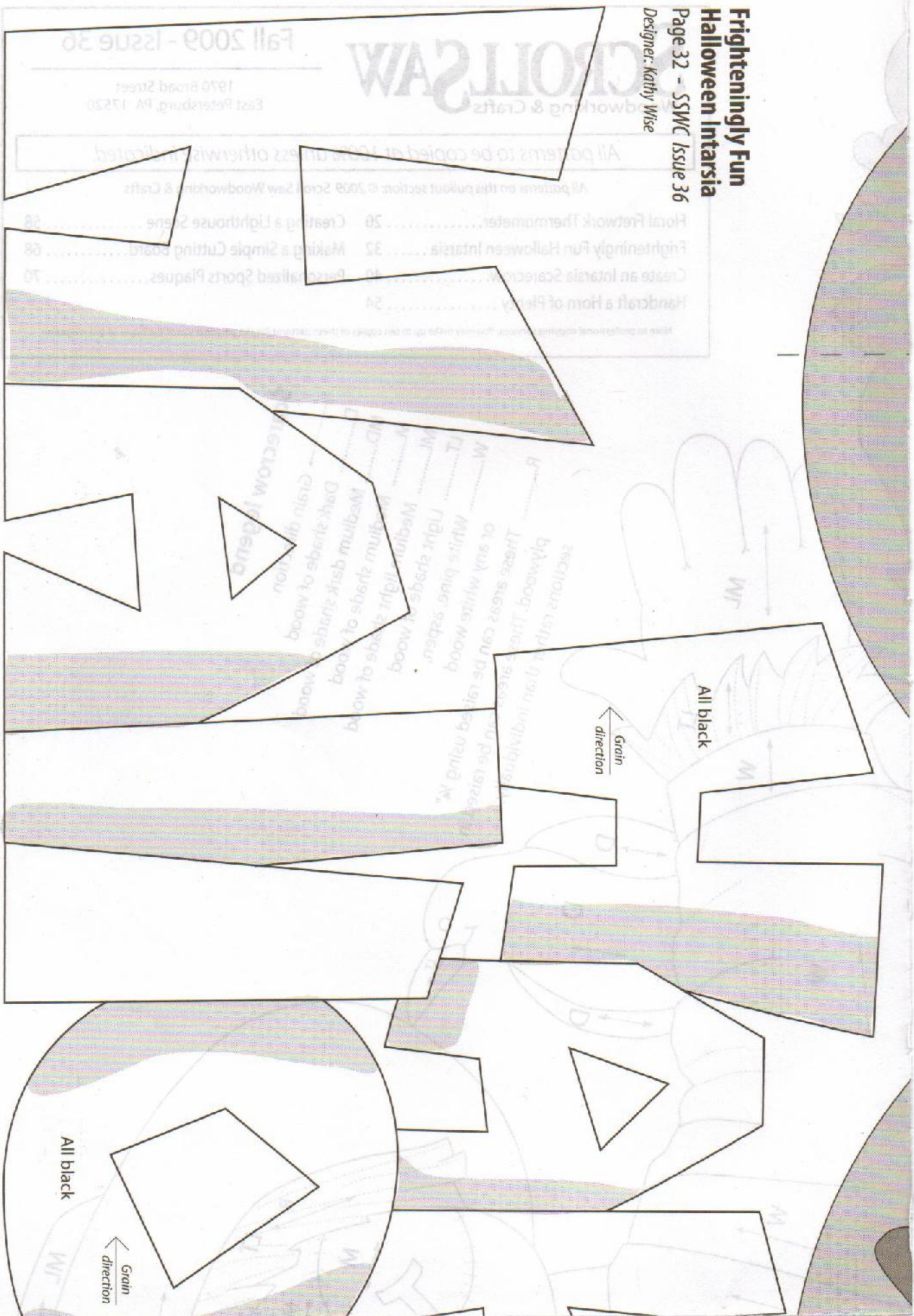
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CROLLSAW

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- Frighteningly Fun Halloween Intarsia 32
- Making a Simple Cutting Board 68
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A B C D

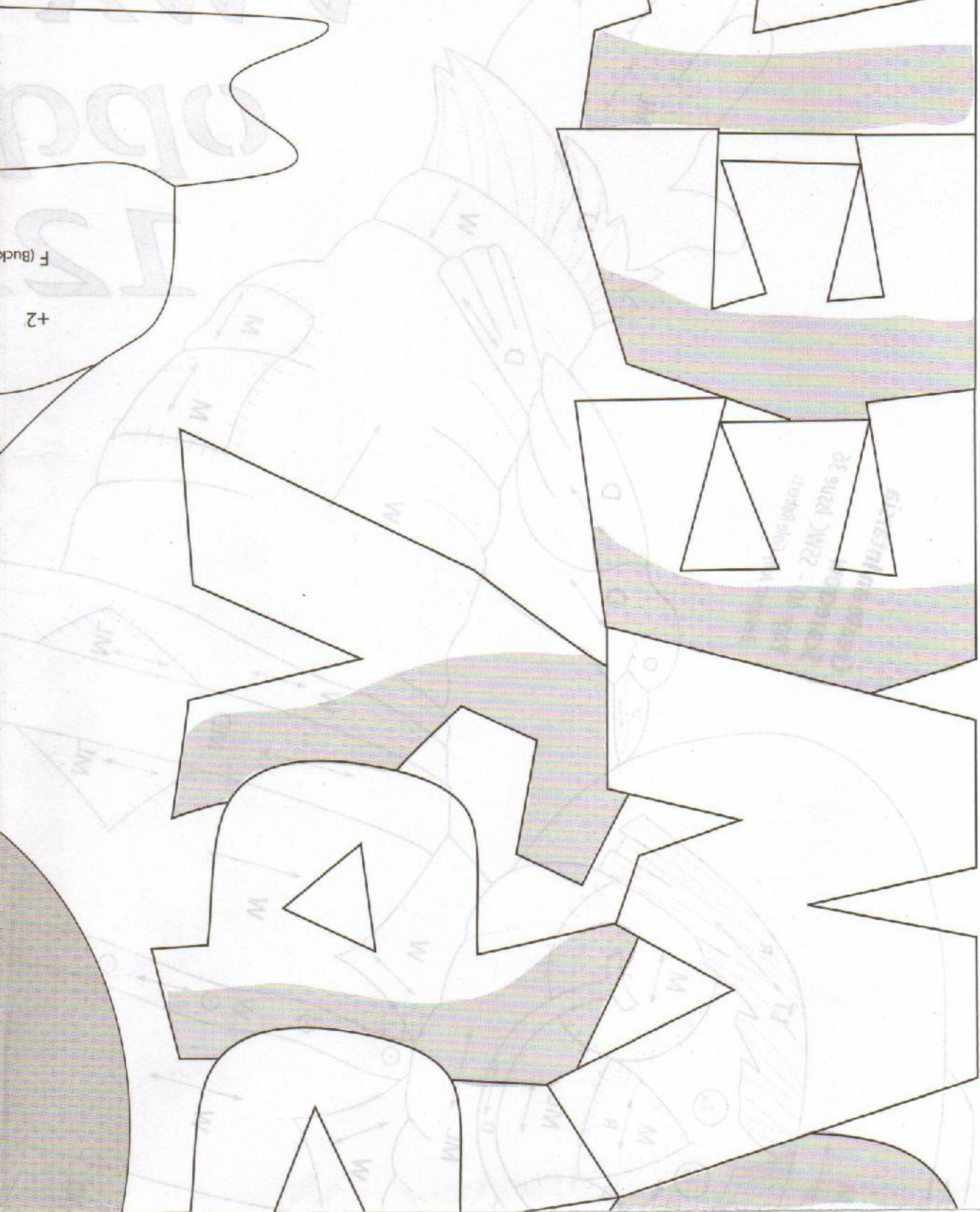
V W X Y

a b c d

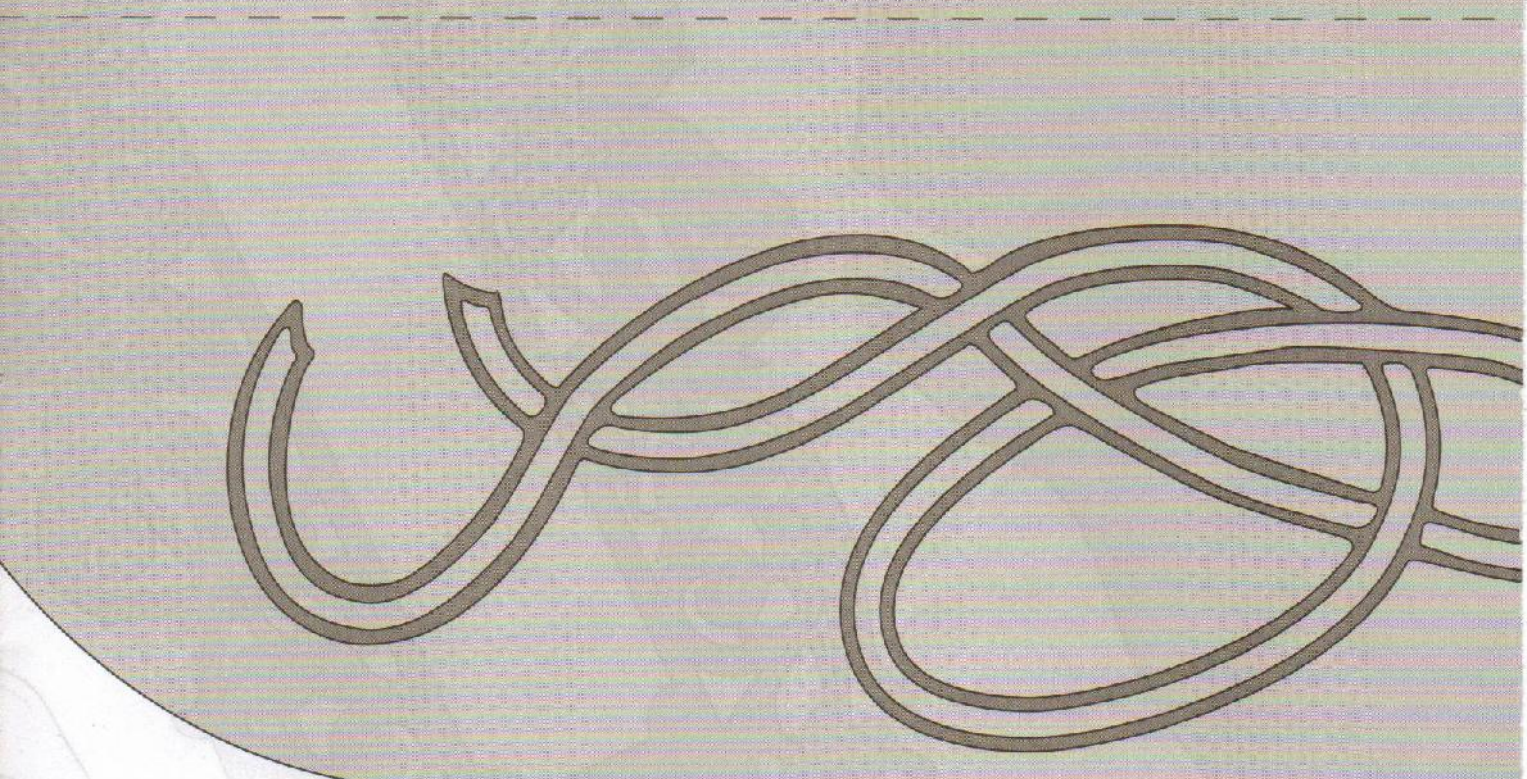
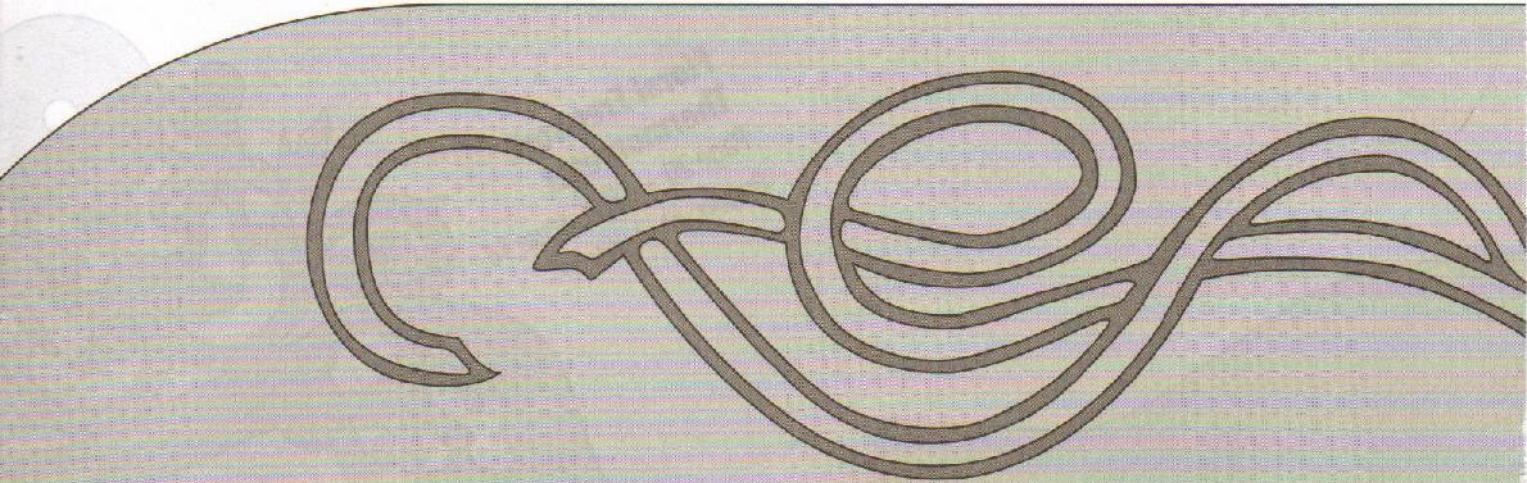
1 2 3 4

F (back)

+2



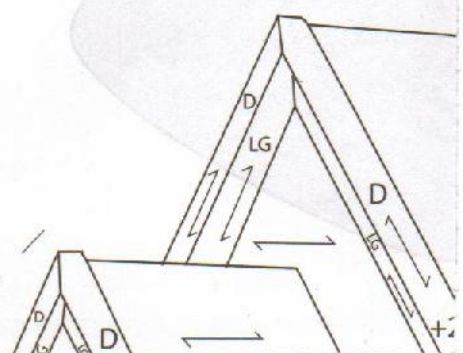
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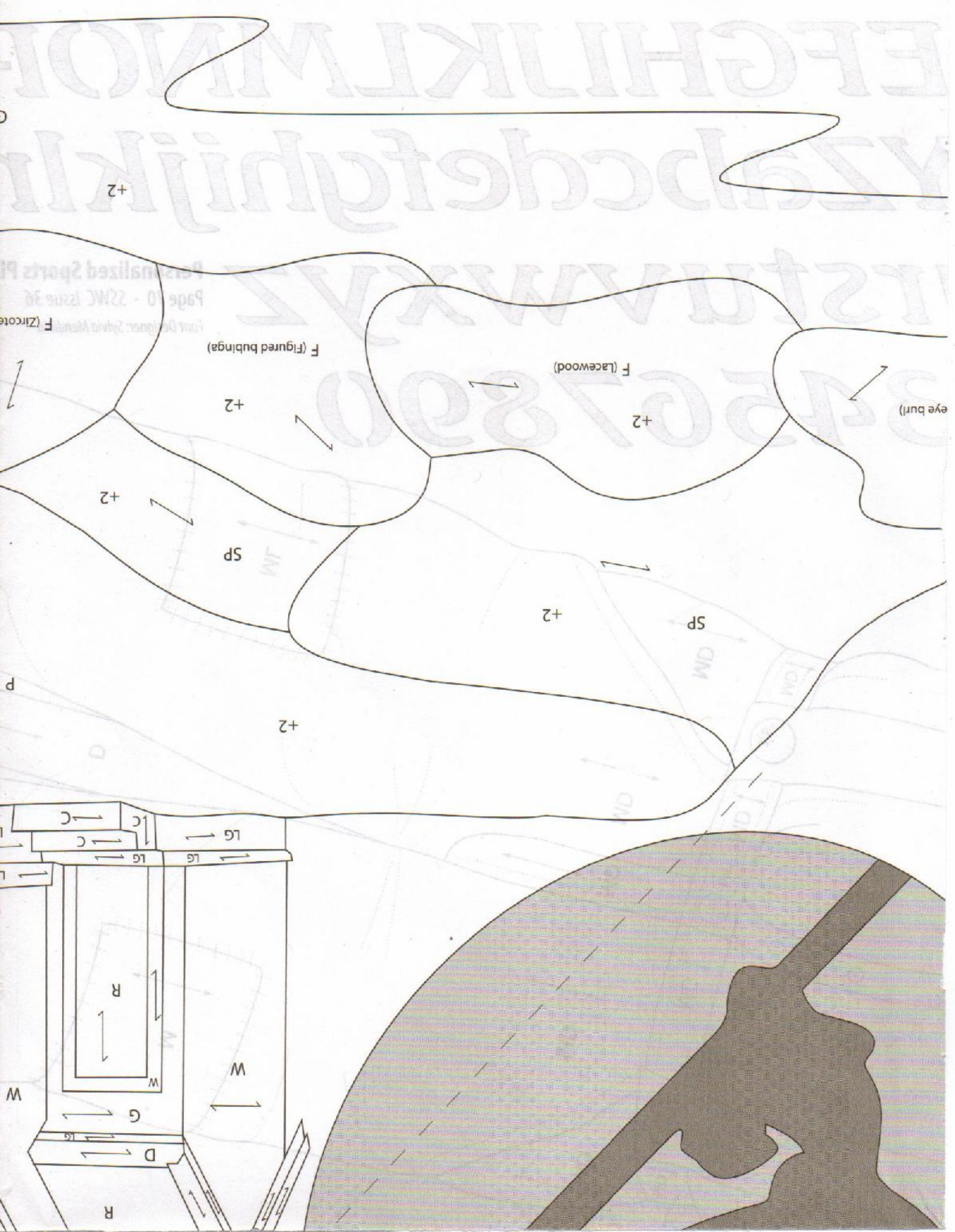


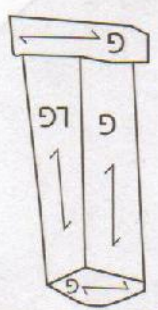
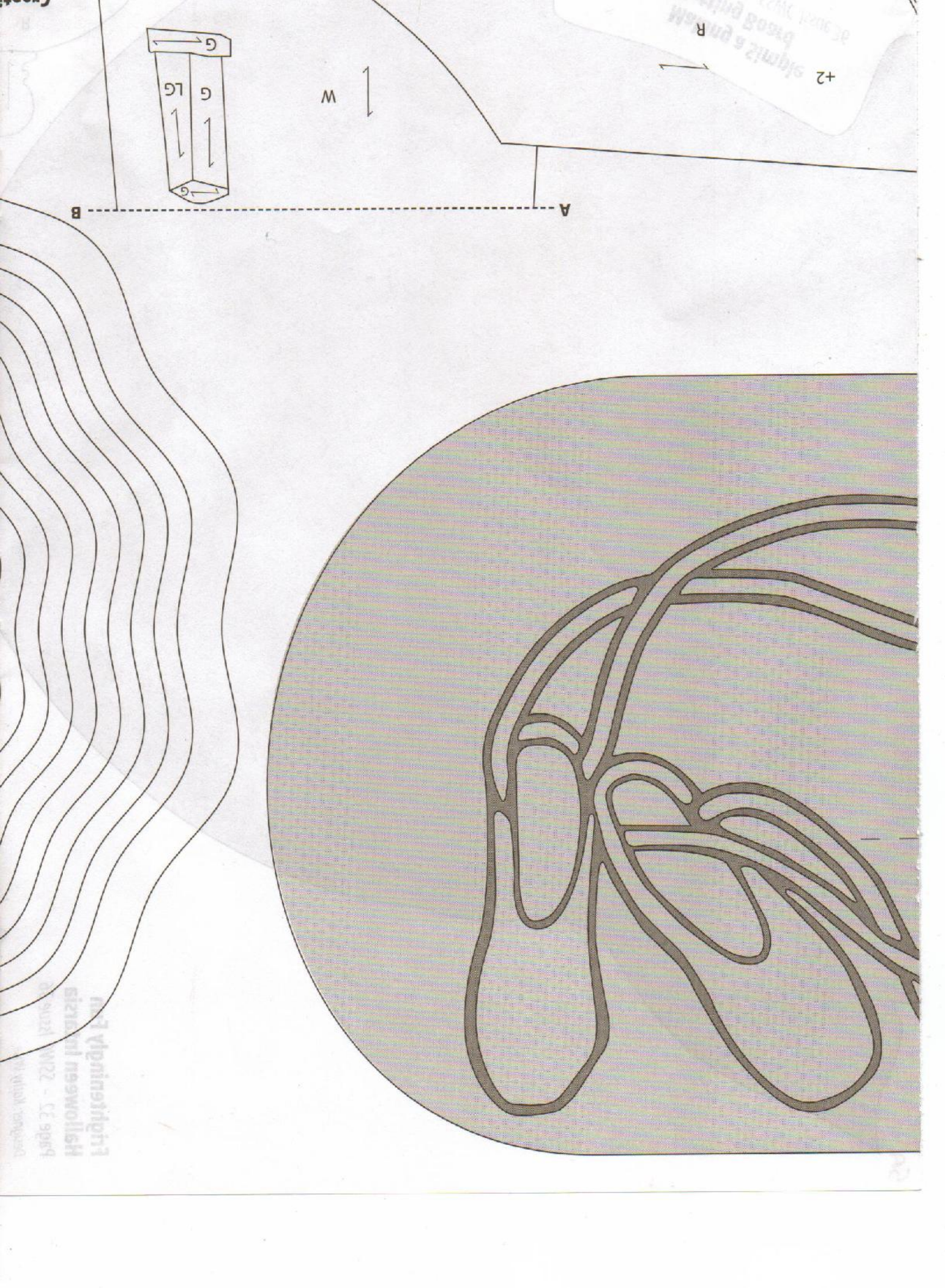
Personalized Sports Plaques

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Designer: James Collins



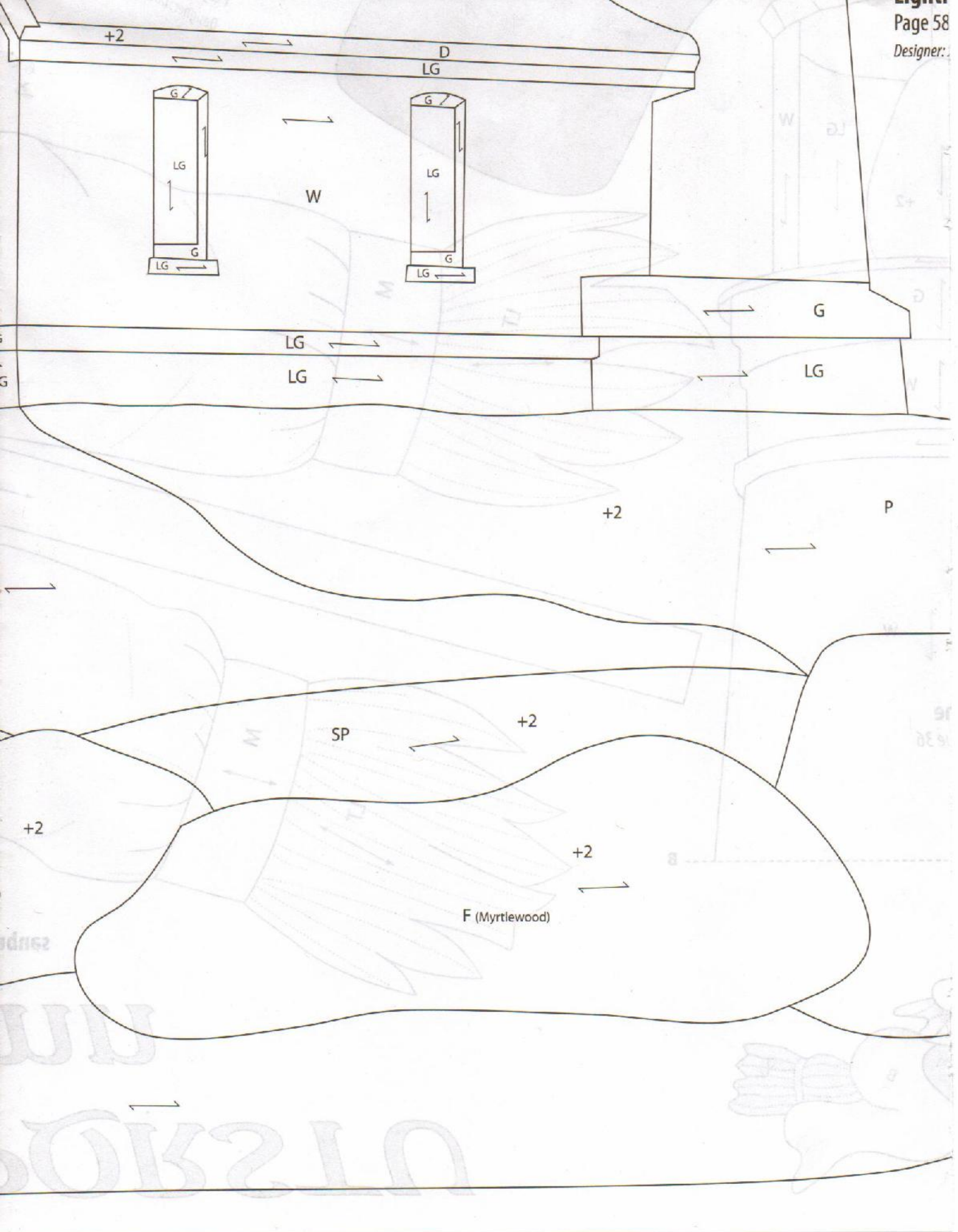


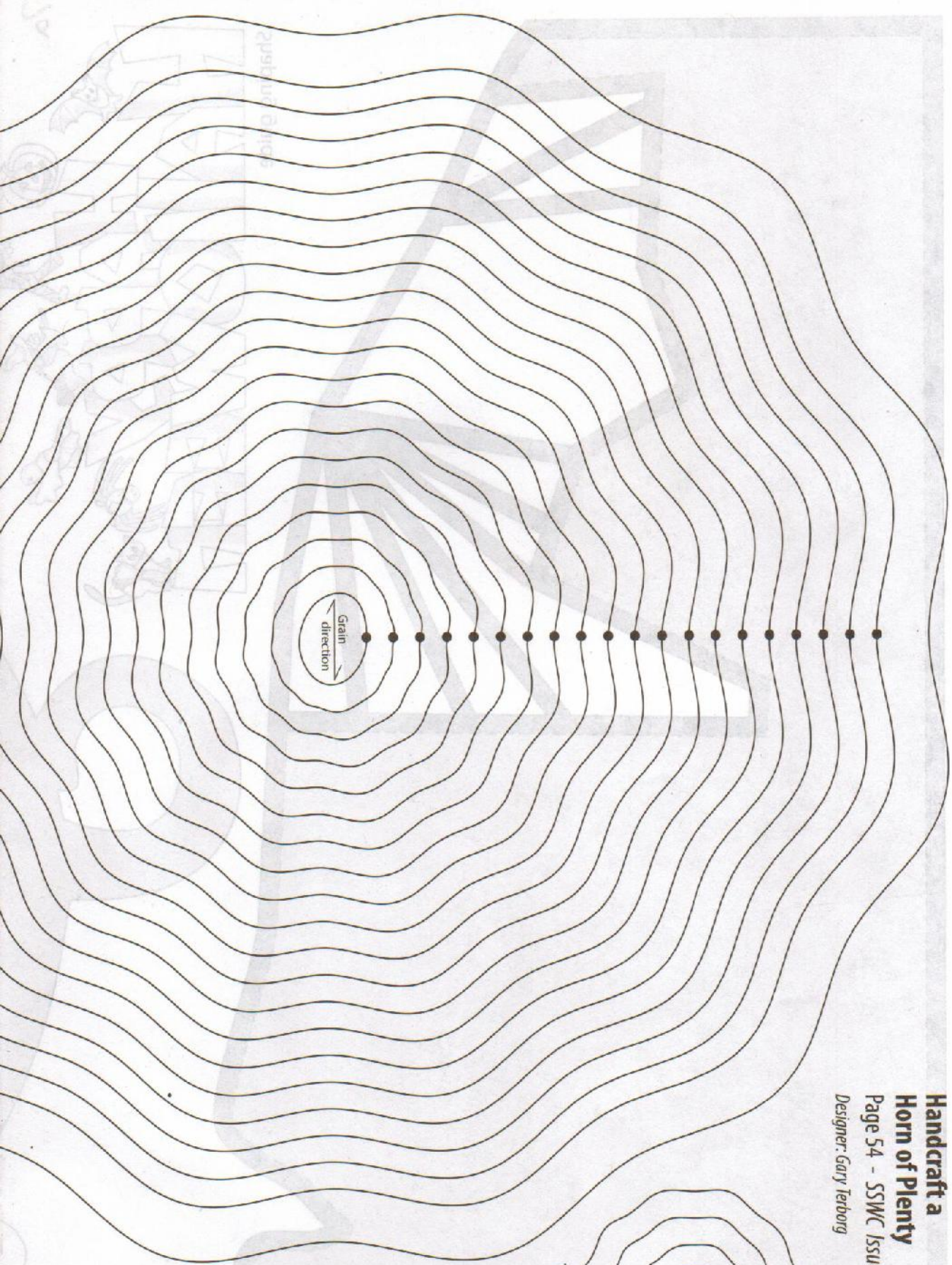


+2
R
mirrored text



mirrored text



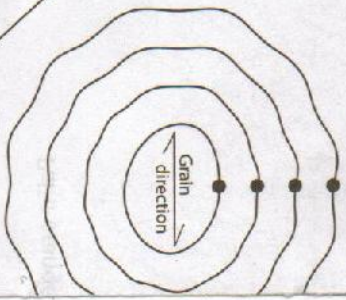


Handcraft a

Horn of Plenty

Page 54 - SSWC Issue 36

Designer: Gary Terborg

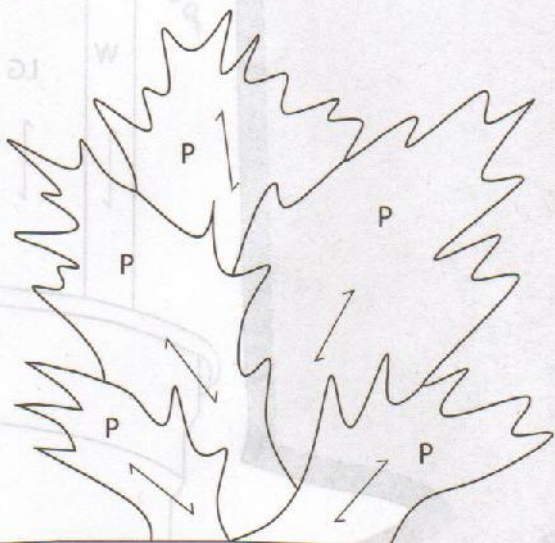


Test pattern

Lighthouse legend

- W.....Maple or white wood
- R.....Tennessee red cedar
- Y.....Yellowheart
- C.....Cherry
- G.....Blue pine or gray wood
- LG....Light blue pine, hackberry or light gray wood
- SP....Spalted elm or other spalted wood
- P.....Poplar
- D.....Walnut or any dark wood
- F.....Any figured, interestingly grained wood

Based on 3/4" wood:
 +2....Raise 1/4"(or use 1" wood)
 ↖.....Grain direction



F (Figured bubinga)

+2

F (Myrtlewood)

Halloween legend

- W.....Any white wood
- Y.....Yellow wood
- J.....Orange wood
- G.....Green wood
- R.....Blackberry darkest wood
- R.....Red wood
- Start with 1/4" wood

wood bun detail