INSIDE! 20" x 30" Full-Size Pattern Section

FALL 2020
ISSUE 80

Scroll Saw Woodworking & Crafts

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Meet New Management Team Member

Mike Morris

See page 67

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FALL 2020 ■ ISSUE 80

Scroll Saw Woodworking & Crafts

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TECHNIQUES

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PROJECTS

PATTERNS

Find these free extras at

SCROLLSAWER.COM

- ***Wand Stand*** - Store your compound-cut creations in style with this nifty design (page 26).
- ***Extra Patterns*** - Try out two additional dinosaur patterns to make as a family (page 38).
- ***Free Projects*** - For more festive projects to usher in fall, visit the How To section on our website.

Celebrating the Natural

As an editor, I have a compulsion to rearrange and improve upon the things around me. Earlier this summer, I commandeered a rotting stump in my backyard, surrounded it with compost and topsoil, and filled the area with perfectly spaced sprigs of portulaca and thyme.

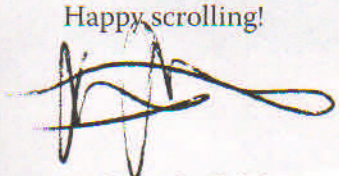
But in one corner grew a suspicious plant that I hadn't invited: daisy fleabane, a common weed. Bucking my compulsions, I let it stay, and now it's one of the nicest plants in my stump garden. It turns out there was one corner I couldn't have improved upon at all.

Along these lines, check out Charles Hand's Curious Raccoon fretwork on page 20, which recasts a backyard villain as a friend by celebrating it in its natural state. Scroll an elegant puzzle box by avian enthusiast John Rhyne, who channeled his love for local hummingbirds into a delicate six-cut creation (page 42). Or read all about our featured maker this issue—Scottish scroller Emily Lewis—whose segmentations show off diverse elements of her homeland, from thistles to midges, in all their "unedited" glory (page 36).

While you're at it, follow along with intarsia legend Judy Gale Roberts, who highlights the natural hues of bloodwood and peroba rosa in her Fall Foliage Intarsia Sign (page 53), or use existing quirks in a piece of blue pine to enhance stacked pieces, like Sue Mey's tranquil scene on page 29. Finally, following Brad and Hazel Eklund's example, use spalting to add depth to two mind-bendingly cute sea otters (page 22). As these artists know, stains and dyes have their place, but sometimes you just can't improve upon a good thing—you can only celebrate it.

This fall, as you don your dust mask and take to the workshop, we hope the projects in these pages offer a reminder of the charm that everyday objects can hold, exactly as they are—sometimes as close as your own backyard.

Happy scrolling!



Kaylee Schofield,
Managing Editor
editors@scrollsawer.com

A common weed stole the show in my stump garden this year.

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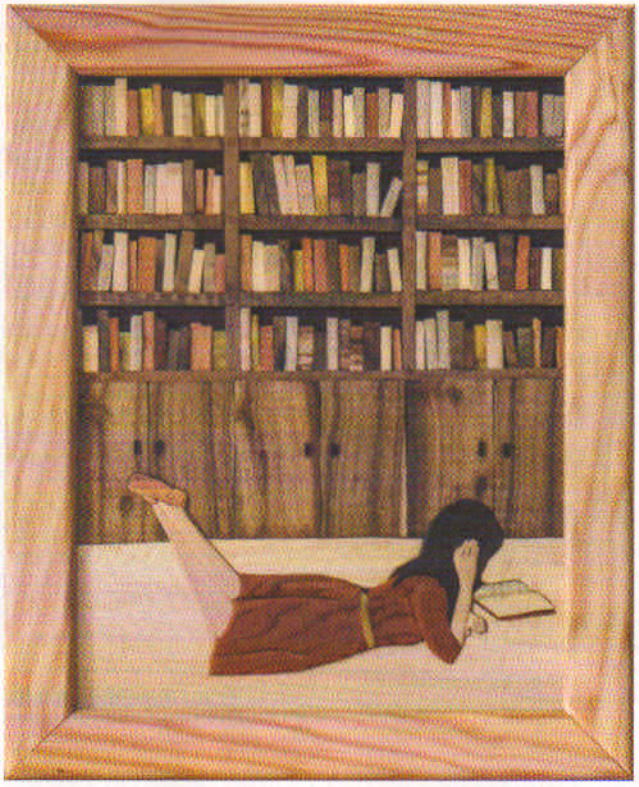
David Hobbs, *Loveland, Colo.*
Friends is one of David Hobbs' personal favorites. "I like how the fox and rabbit appear a bit unnatural, with twisting limbs and sly smiles," he said. "I've wanted to portray animals like this for a long time." While designing intricate cutouts, David leaves as many interior gaps as possible so that there's plenty of depth and dimension. The 29-year-old has been cutting and painting for nearly a decade, despite being born red-green color-blind. "I'm sure I see my artwork differently than others, and that's an idea I've always been fond of," he said. See more from David on Instagram @hobbsart.

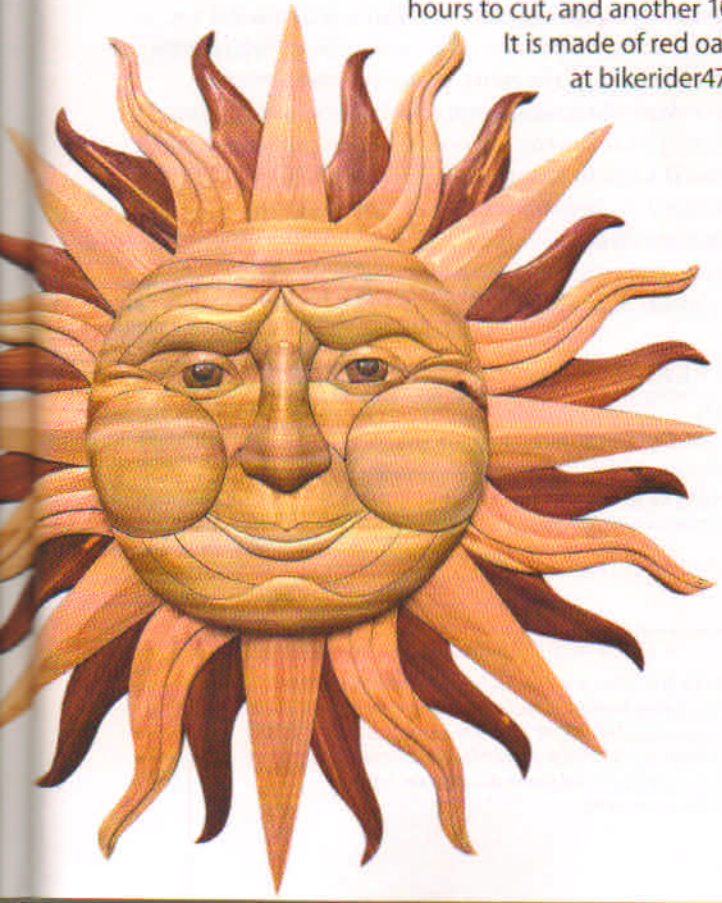
Diederick Kraaijeveld, *Hilversum, Netherlands*
Diederick Kraaijeveld's ***Lion*** segmentation was commissioned as an anniversary gift for a married couple. While working on the project, Diederick learned the couple originally met at a student-run club in the Netherlands. As luck would have it, Diederick had some pieces of an old wooden chair from the club—left over from a portrait he'd made of the reigning King of the Netherlands, Willem-Alexander (also a former member of the club). Diederick incorporated the chair to give the couple an even more meaningful piece. ***Lion*** is 35" by 50" (89cm by 1.3m) and is entirely scroll sawn. See more of Diederick's work at oudhout.com.

Kendra Chura, *White Lake, Mich.*
Kendra Chura began her woodworking journey five years ago, with nothing more than a pallet, a hammer, and some nails. Over the years, she's acquired more skills and tools—including her beloved scroll saw—and an Instagram account with more than 14K followers. She also now has her own workshop, complete with a mischievous farm goat, Penny, who often sneaks into her pictures. Kendra cut these original flower designs from MDF, which she then secured to a piece of black walnut. To see more of her work (and Penny's adorable antics), visit Instagram @kendras_gotwood.



Farzane "Nini" Etebar, *Nice, France*
Farzane "Nini" Etebar began working with the scroll saw at age 17. Nearly a decade later, it's still her greatest passion. Nini considers her style to be a blend of marquetry and Moaragh—ancient inlay techniques derived from India and Iran—with something more modern thrown in for good measure. "My goal is to create unusual or inspiring artwork," she said. A lover of fruitwoods, Nini used orange, pear, walnut, barberry, black mulberry, and jujube to create her serene library scene. See more of Nini's work on Instagram @arboree.gallery.

David Kettunen, *Weston, Wis.*
David Kettunen received his first scroll saw as a gift from a favorite uncle. He began cutting basic designs, like snowflakes and other small trinkets, to get a feel for the craft. Eventually, David worked his way up to much larger, more detailed projects. "I enjoy the challenge that clocks provide," he said. His German chalet clock took about 24 hours to cut, and another 10 hours to assemble. It is made of red oak. Contact Dave at bikerider47@charter.net.



Mark Gifford, *Willoughby, Ohio*
Mark Gifford gifted this sun to his wife for their 25th wedding anniversary. "She has always been a bright light in my life, as well as one for countless others," he said. "I thought this piece would be perfect for her." The sun is a Judy Gale Roberts pattern. Mark used three types of cedar, with some poplar and walnut for the eyes. You can find more of Mark's work on Etsy @atgwoodworking.

Share Your Latest Work!

Send a slide, professional print, or digital image (300 dpi minimum) with 100 words about you and your piece. Include your hometown, the name of the pattern maker, and a list of wood and materials used. Send to Reader Gallery, *Scroll Saw Woodworking & Crafts*, 903 Square Street, Mount Joy, PA 17552 or e-mail editors@scrollsawer.com.

Staining Baltic Birch

I make a lot of toys and enjoy coloring the wood with vibrant hues. Finding a paint or colorful stain that does not mask the grain or character of the wood—while still providing consistent coverage—has always been a challenge. I saw your product review on Unicorn SPiT (issue #76) and decided to give it a try. One of the most difficult woods to stain or dye evenly is Baltic birch plywood, and the hardest part is the endgrain. I used one part SPiT to seven parts water on a piece and was immediately impressed. It works like a dye and has uniform coverage. Thanks for the recommendation!

Dave Van Ess, *Chandler, Ariz.*

Unicorn SPiT gives great results in staining stingy Baltic birch plywood.

Tale As Old As Time

I enjoy your magazine very much. My friend Glen found a clock pattern in the summer 2013 issue (#51) and asked for my help making it. He's 82 years old and his hands and eyesight are not what they used to be. We loved it so much that we made two, using Australian red cedar and mountain ash.

The challenge was formidable, but made easier with the help of *SSW&C* test-cutter Rolf Beuttenmuller. I got in touch with Rolf to purchase two sets of hardware kits (designed by him) for the project and was thrilled at the level of encouragement and advice he shared with me. With his help, I completed the clocks. They work well and look amazing, and one was dubbed champion of its class in a recent competition with more than 150 excellent entries. Thanks *SSW&C* and thank you, Rolf!

Ian Thomson
Wollongbar, Australia

Ian Thomson & co. created an award-winning clock with expert advice from *SSW&C* contributor, Rolf Beuttenmuller.

Where to Begin?

What type of wood is best for first-time scrollers? I'm not sure which variety and thickness I should be looking for.

Jalee Roberts, *Lewisport, Ky.*

Editor's Response: Wood selection depends on the project. Beginners looking to try fretwork should test their patterns on a thin plywood; the strong fibers ensure delicate bridges won't snap as easily. For puzzles, try pine—it's soft and affordable, and its light color allows for endless stain and coloring options. Once you get comfortable with softer woods on the saw, try out any domestic hardwoods that are available to you—walnut, cherry, maple, etc. The more you practice with different wood varieties, the more versatile you'll become. Our Beginner Materials section on scrollsawer.com is a great resource, as well as a booklet we just released containing all the basics you'll need to get started on the scroll saw. (See product information below!) And as always, you can e-mail us at editors@scrollsawer.com with any scroll saw-specific questions. We'd be happy to help you out!

FURTHER READING

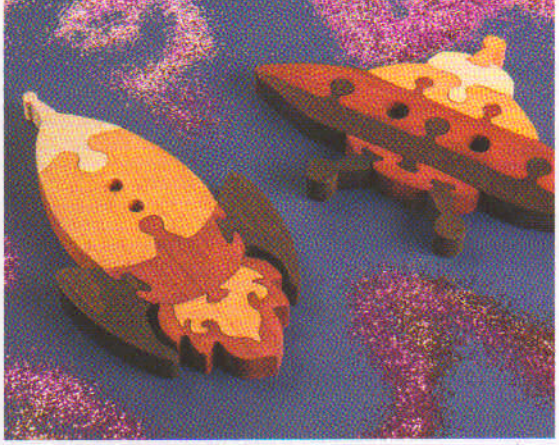
Scrolling 101: Everything the Beginner Needs to Know

By *Scroll Saw Woodworking & Crafts*

Item 01364. Available for $6.99 + S&H (parcel post) from Fox Chapel Publishing, FoxChapelPublishing.com, 800-457-9112.

Write to Us! Tell us your thoughts on our projects, ideas for new patterns, scrolling experiences, and woodworking show stories. Write to us at: Letters to the Editor, *Scroll Saw Woodworking & Crafts*, 903 Square Street, Mount Joy, PA 17552 or e-mail editors@scrollsawer.com. You can also send us your letters and photos via Instagram! Tag us @scrollsawwoodworking.

Scroll an assortment of graceful fretwork ornaments.



Quirky spaceship puzzles make for out-of-this-world fun.

Look for the Fox Hunt Winners on Page 70!

Make any day race day with easy-to-build hardwood Indy cars.

FROM THE FORUM

"To kick off some banter and offer innovative ideas to seasoned scrollers and newcomers alike, please name a helpful but unusual tool you use in the shop..."
Linda David, *Phoenix, Ariz.*

- I've used biscuit cutters to cut the grooves for slide-in shelves.
  Randy Gloden, *Manchester, Tenn.*

- Plastic coffee lids are the perfect size to put an orbital sander on. The lid protects the bench top and allows you to set the sander down before it stops moving.
  Scott Miller, *Littleton, N.C.*

- I use a hair dryer to speed up the setting of finishes on small items.
  Hank Lee, *Tunica, Miss.*

- The plastic trays from frozen or prepackaged meals are great for storing small parts or puzzle pieces.
  Eleanor Smith, *Oakland, Calif.*

For more informaton and more conversation, visit forum.scrollsawer.com.

SET IT **STRAIGHT**

Some readers wrote in regarding the order of the pattern layers in Charles Hand's "Geometric Sunburst Fretwork" project on page 38 of our summer issue. To clarify the numbering system, we have made the individual patterns, as well as a detailed illustration, available in the issue landing page on scrollsawer.com. Our apologies for the confusion.

Sawdust Retreat

Girl Scouts collab with the NorthStar Scrollers to create a timeless symbol of sisterhood

By Hannah Rachel Carroll

Cris Gaffney and Phil Lagarde encourage scout leader Moria McKay Brown as she tackles the scroll saw.

Girl Scouts are known for their cookies—and in the future, quite possibly their sawdust. At the recent Girl Scout Leadership Conference held annually at Camp Lakamaga near Forest Lake, Minn., thirteen leaders and scroll saw enthusiasts completed a project fit for the occasion: the iconic green and white Girl Scout logo, which the all-female organization has affectionately coined the Trefoil.

Natalie Broshar, conference coordinator, said the layered logo represents the threefold promise as originally laid down by the organization's founder.

"With everything the Girl Scouts create," said Broshar, "they aim to stay true to their brand and the values of leadership, sisterhood, and inclusion. The Trefoil embodies this message. When deciding on a project for the conference, we found it an easy choice."

Gary Geist helps Valerie Lewis craft her Trefoil.

The scroll saw class was led by nine members of the Minnesota NorthStar Scrollers Club. Instructors brought several scroll saws to the conference, and enough wood for 16 projects. The class consisted of a short introduction, a video presentation explaining the basics of scrolling, and several demonstrations.

"The Program Hut at Camp Lakamaga was buzzing with action and excitement this year," said Katie McBride, of the Minnesota NorthStar Scrollers Club. "But it was more than just the class members who thoroughly enjoyed their time—it was the instructors, too."

In addition to a completed project, each Girl Scout leader took home a grab bag of supplies, including a ready-to-cut logo, patterns, blades, and assorted safety equipment.

A compilation of class materials was also shared with each leader digitally, giving them the ability to teach the project to their Girl Scout troop. McBride said the NorthStar Scrollers Club hopes that the leaders and their scouts will "duplicate this experience for others, allowing even more people to know this relaxing, creative hobby."

For more information, visit northstarscrollers.org or contact Katie McBride at 612-825-7569.

Using a Countersink for Blade-Entry Holes

TOP TIP

When you're working on a project with multiple blade-entry holes, use a countersink bit to make depressions on the back side of the piece. This provides bigger holes to feel for while guiding your blade through.

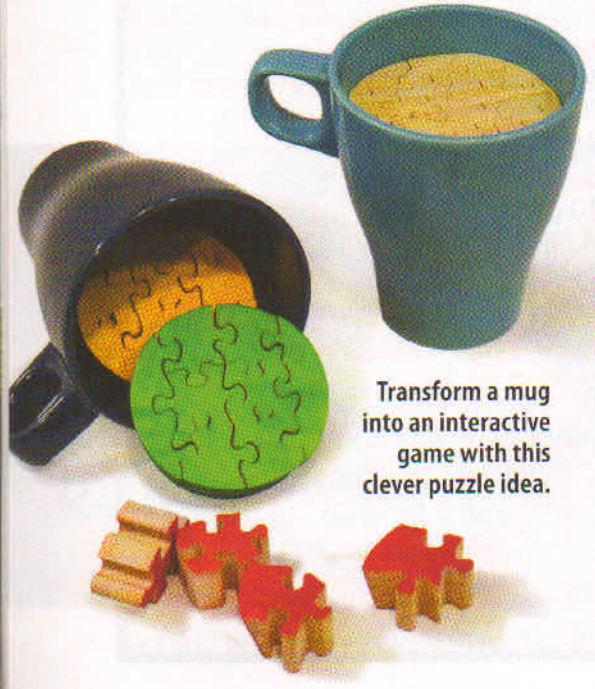
This method came in handy when I cut a cheetah, designed by Andy Birkey, out of a slab of white oak. I used a Dremel with a plunger to drill my holes, then a cordless drill with a countersink bit to make a better entry hole. Using a countersink bit in this way is not ideal for highly detailed fretwork, but for most beginners, or patterns where the blade-entry holes sit far enough apart, it works great!

Sterling Davis
Dallas, N.C.

Easily make depressions on the backs of projects with a countersink bit.

Sterling scrolled his massive wildcat on live-edge white oak.

Use a countersink bit to make blade-holes more accessible.



Transform a mug into an interactive game with this clever puzzle idea.

Stackable Puzzle with a Twist

For the coffee and tea lovers out there, here's a challenge: make a stacked puzzle that fits inside your favorite mug. I used a small funnel-shaped variety to ensure each layer of the puzzle would be a different diameter.

Create a template of the inside of the mug on construction paper or thin cardboard. Once the template is cut out, mark the center of the top and the bottom and draw a line down the middle. Mark the template every half inch with a horizontal line. *Note: You can now use a compass to draw your circles by taking the radius from the template for each layer. You can also use the template to determine the cutting angle of the outside of each layer.*

Add a puzzle pattern to each layer. You can find one online or draw your own. After you've cut out the pieces, reassemble your puzzle layers and see if they drop easily into the mug. (If they don't fit perfectly, a little sanding around the edges does the trick.) Add a food-safe topcoat of mineral oil and beeswax to each piece, let dry, and enjoy—just remember to remove the puzzle before pouring your next cup of joe!

Larry Patton
Wildwood, Fla.

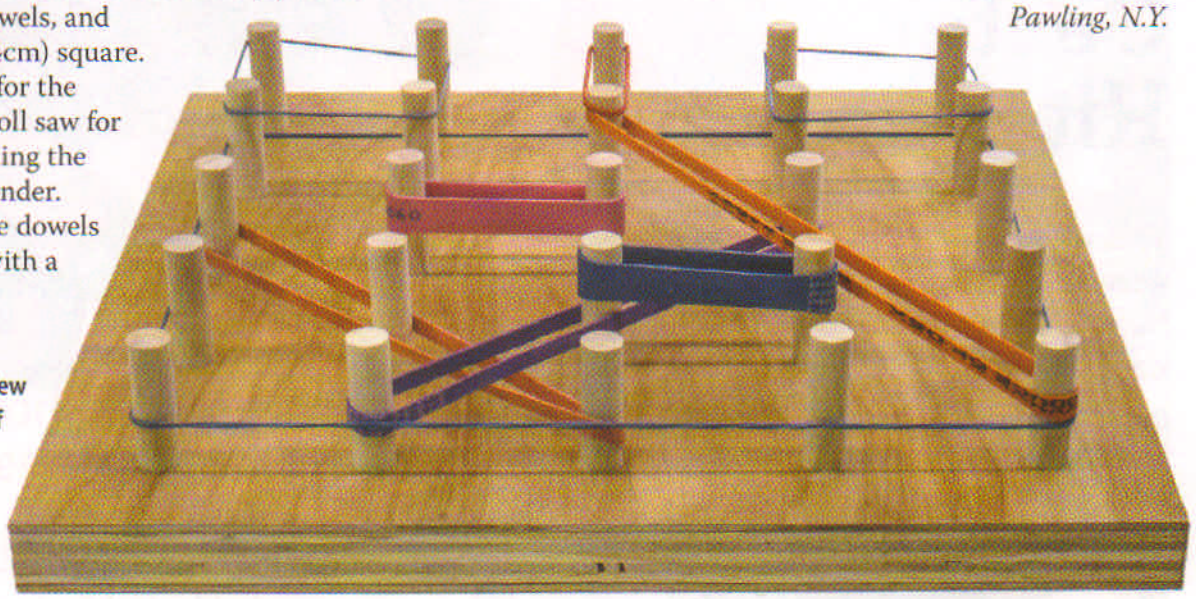
Cheap and Simple Games for Kids

My young grandson enjoys putting rubber bands around things, so much so that we have a special stash for him to play with when he visits. Thanks to the unprecedented free time I now have on my hands, I decided to make my own version of a rubber band board to further his entertainment.

The board was made from leftover plywood and ⅜" (10mm) dowels, and measures 10" (25.4cm) square. I used a table saw for the plywood and a scroll saw for the dowels, neatening the ends with a belt sander. Then I glued in the dowels and seated them with a wooden mallet.

This simple project is perfect for people stuck at home with limited materials—and little people to entertain. It's cute and easy, and even a preschooler could help with the hammering. The nice thing is that the many commercial versions of this board are typically not as large and are fairly pricey. This one can stand up to the best of them and was made from leftovers.

Carole Rothman
Pawling, N.Y.



A scrap of plywood, a few dowels, and handful of rubber bands makes a dandy little pastime for children.

Bora PM-900 Caster Kit

This workbench accessory is both heavy-duty and easy to operate

By Luke Voytas

Lowering the foot-activated levers allows the user to easily maneuver a work bench or cart about the shop.

MSRP $89
for set of 4
Boratool.com

Bora's new shop casters are a convenient, heavy-duty addition to any workbench or shop cart. After installing the casters on my own bench, I immediately began relying on them to help me move wood and tools around, reducing the need to make multiple trips or lift and carry heavy items. I didn't realize how useful they would be until I had them attached.

The casters are solidly made, with thick steel bodies and nice, durable rubber wheels. The wheels are large enough that they can roll over debris in a messy shop with ease. The casters are rated for 155lbs. each, so to test them, I placed three frightened coworkers on my workbench and pushed them through the shop with little effort. (A fourth could have been added but backed out after observing my bad steering.) The wheels rotate 360°, which allowed me to easily maneuver the workbench into tight areas—like between large tools or items along a wall—requiring no extra space.

The best feature of the casters are the indivudal, oversized levers that allow you to use your foot to raise the workbench off the floor and engage the wheels. Even loaded with the weight of a full bench, the casters were easy to activate. When the bench is positioned where you want it, simply flip the lever with your foot to lower the bench back to the ground and return to work. This is a huge improvement over regular casters, which must be locked by hand and don't allow you to lower the bench to the ground for increased stability.

Installing the casters was easy with the provided instructions and common tools. I did notice that sometimes, when transporting larger loads, the casters needed some coaxing to release fully after I flipped the lever. Overall, though, I ran into no major concerns.

These Bora casters are built to last, making them a great addition to a workbench or tool stand. They'll save you effort and help maximize space in small shops. While slightly pricier than conventional casters, their excellent design and quality manufacturing make them well worth the difference!

Luke Voytas is the Woodshop Technician and Artist Instructor at GoggleWorks Center for the Arts in Reading, Pa. Learn about his classes at goggleworks.org and see his work at lukevoytas.com.

Keeping it Legal

Have copyright questions? So did we—so we asked an intellectual property lawyer

By Kaylee Schofield

Disclaimer: This article includes general tips and information about copyright, useful for both pattern-makers and users. It is not intended as a substitute for specific legal advice.

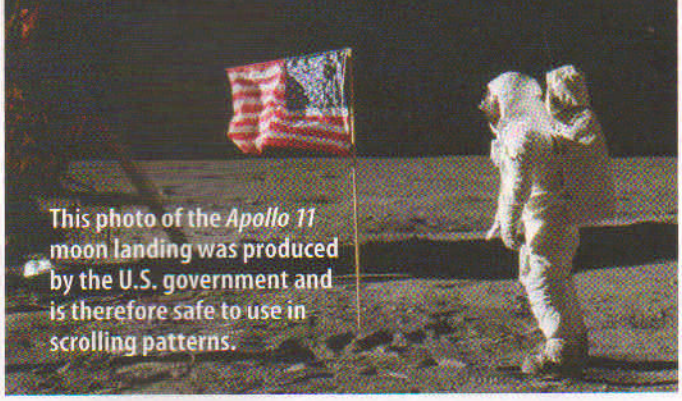
If you've used the scroll saw for any length of time, you've probably come across a wide variety of patterns—whether online, at woodworking shows, in stores, or throughout this magazine. Because patterns are our bread and butter at *SSW&C*, we're delving into some commonly asked reader questions about legality and pattern use, so you can approach each project with a general understanding of which practices are legal and which could get you into trouble.

Item	Such as...	Can I use it?
Copyrighted image from another artist	Photo of a bunch of flowers, taken by a professional photographer	Yes, if you receive permission from the artist in writing and give credit wherever the image is used
Image of a famous person	Elvis Presley	Generally, no
Photo of a famous location/structure	The Parthenon	Yes, as long as you took the photo or have written permission from the photographer to use that photo as a reference
Public domain image	NASA *Apollo 11* moon landing photo	Generally, yes
Copyrighted pattern from another designer	Turtle intarsia pattern purchased on Etsy	Yes, but only for personal use—not to distribute or resell, unless authorized by the designer

Q: What is copyright?

A: Copyright, which falls under the umbrella of intellectual property law, is legal protection covering tangible creative works such as books, songs, and photographs. An original intarsia pattern of a turtle, for example, is protected under copyright "the moment it is created and fixed in a tangible form that is perceptible either directly or with the aid of a machine or device," according to the U. S. Copyright Office. A created work does not have to be published or officially registered in order to be protected under copyright. (Having a registered copyright is required, however, to file a lawsuit.)

In other words, if you have drawn an original pattern (either digitally or with pen and paper), you retain copyright on that work, even if the design is simple and no one has seen it but you.



This photo of the *Apollo 11* moon landing was produced by the U.S. government and is therefore safe to use in scrolling patterns.

Q: What does copyright protect?
A: Thomas Tuytschaevers, of counsel in the Intellectual Property department at Boston's Nutter McLennen & Fish LLP, explains it this way:

"Copyright rights are like a bundle of sticks—they're one big thing made up of a bunch of little things. This 'bundle of sticks' reserves to the copyright owner the right to make a copy of a work, display a work publicly, distribute it to others, and create derivative works (for example, a pattern derived from a photograph or an intarsia piece from a pattern)."

Let's say you design a golden retriever puzzle. You alone have the right to display that design in a public space, profit from it, give away copies of the pattern, or slap it on a t-shirt or coffee mug to sell as merchandise.

Q: Can I design a pattern based on an image I found online?
A: That depends. If, for instance, a photographer in Brooklyn took a photo of a bouquet of flowers, you can reach out to that photographer to ask permission to turn the photo into a pattern (for fretwork, intarsia, or otherwise). If you receive permission in writing, then it's acceptable to turn that photo into a pattern—as long as you give credit to the photographer everywhere your pattern appears. However, if you have no way of finding out who took the photo, it's best to steer clear.

Q: What about photos in the public domain?
A: Usually, this is okay. Because no one has any copyright claim to public domain photos, you can use a photo from the public domain (i.e. a WWII image from the National Archives) in a pattern you design for commercial use. This also goes for works produced by the U.S. federal government, such as the famous moon landing photo from NASA; in most cases, pattern designers can use images in this vein, as the U.S. government does not claim copyright on them.

Q: Can I use an image of a celebrity when designing my pattern?
A: Generally speaking, no. This could violate copyright because it derives from an original photo taken by another artist, and could also violate another right—the celebrity's right to profit from his or her image. Even if the celebrity has passed away, using their image could still be considered a violation.

Q: Can I use an image of a famous place when designing my pattern?
A: According to our expert, "Copyright does not protect the underlying facts but rather the expression of those facts."

In other words, you are free to snap a photo of the Parthenon or the Grand Canyon and translate that photo into a pattern. The Parthenon and the Grand Canyon are not protected under copyright. It would be a violation, however, to portray these places in the exact way another artist did before you. *Note: A curious exception, however, is that the Eiffel Tower lit up at night is protected by copyright.*

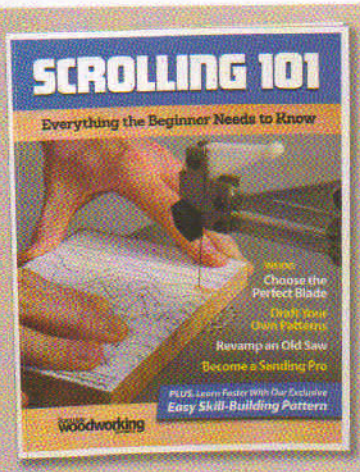
Q: If I purchased a copyrighted pattern from another artist for my own use, what can I do with that pattern?
A: Assuming the seller is the copyright owner, or has permission from the copyright owner to sell you the pattern, you can make as many versions of the resulting project—either to give as gifts or to keep for yourself—as the seller's terms and limits specify. However, reselling or distributing the pattern to others, as well as selling your own scrolled versions of the design at craft fairs or online, will be a violation of copyright if it exceeds the permission granted by the seller, potentially incurring thousands of dollars in damages—even if you don't technically make a profit. The same applies to content published in this magazine; see specific guidelines on pattern use in the top corner of the pattern pullout or write us with questions. If you're ever unsure as to what qualifies as "appropriate use," reach out to the designer or seller for clarification.

Conclusion

The above tips may seem like a lot of "can't"s, but be encouraged—copyright law gives artists the protection they need to continue producing beautiful work, like you see on the pages of this issue. If you're ever unsure about the legality of using someone's design in your scrolled work, there are a few things you can do: research further, consult a legal professional, give credit to the artist where applicable, or, if you're able, consider creating your own original designs instead. *For more information, visit copyright.gov, dmlp.org/legal-guide, or usa.gov/government-works.*

This photo of the Parthenon in Athens, Greece, was taken by the article's author. As such, it is safe for her to use in a pattern.

Must-Have Guides for Beginners



Scrolling 101

Everything the Beginner Needs to Know

By the Editors of *Scroll Saw Woodworking & Crafts*

- Includes easy-to-understand articles on the scroll saw basics, from choosing blades and sanding to adapting patterns and making the most out of an inexpensive saw
- Features helpful charts, photography, and illustrations, as well as a skill-building exercise to practice cuts
- Written by a team of leading scroll saw artists and contributors to *Scroll Saw Woodworking & Crafts* magazine

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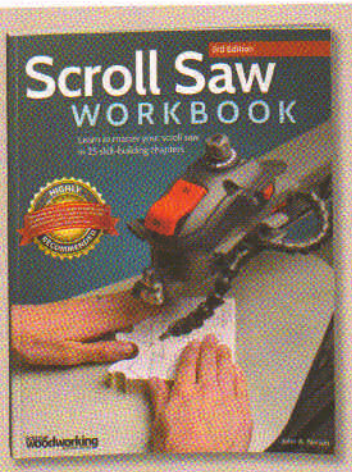

Scroll Saw Workbook, 3rd Edition

Learn to Master Your Scroll Saw in 25 Skill-Building Chapters

By John A. Nelson

- An ideal beginner's guide and gateway to the popular scroll saw
- Progressive learning approach teaches every skill that matters on this tool
- Features 25 skill-building practice exercises, including easy-to-use patterns and step-by-step cutting instructions
- Author and master craftsman John A. Nelson is a frequent contributor to *Scroll Saw Woodworking & Crafts* magazine

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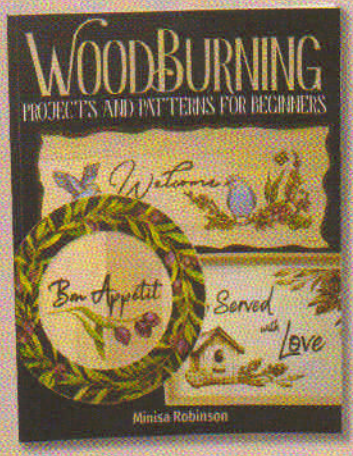

Woodburning Projects and Patterns for Beginners

By Minisa Robinson

- Understand the different tools, supplies, and safety precautions involved in the art of woodburning
- Learn basic techniques for burning even lines, shading, black backgrounds, stippling, and more
- Includes beginner-friendly step-by-step projects and patterns included on a variety of materials, from signs and boxes to frames, ornaments, and coasters
- Know how to avoid and fix mistakes, then seal and finish each project
- Pyrography artist Minisa Robinson is also the author of *Woodburning Realistic Animals* and has contributed to *Woodcarving Illustrated* and *Pyrography* magazine

Paperback
144 pages • 8" x 10"
Code: 00855 • $19.99

Quick-Start Woodburning Guide

By Michele Y. Parsons

- Perfect to introduce a newcomer to the hobby of pyrography by understanding safety, care and use of equipment, and how to burn using different pens
- Written in a quick, easy-to-read format with a lot of photos and captions
- Includes a list of further suggested reading for project books and DVDs should the reader decide to continue and want to begin practicing
- Written by Michele Y. Parsons, a pyrographer, woodcarver, founder and owner of Parsons Wood Artistry, instructor, and author of *Leather Pyrography*

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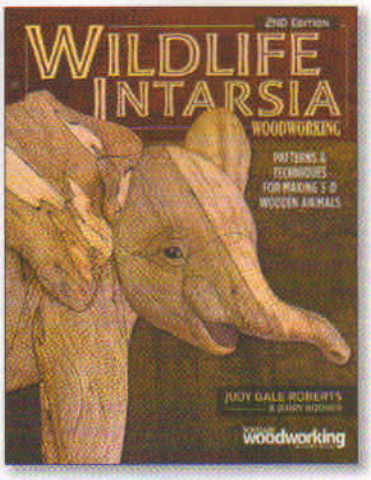
Go Wild with Your Scroll Saw!



Wildlife Intarsia

Patterns & Techniques for Making 3-D Wooden Animals

By Judy Gale Roberts and Jerry Booher

Learn the secrets of creating fascinating 3D wooden inlay projects with 14 exciting intarsia patterns of popular wildlife. Includes step-by-step intarsia demonstrations for a Bald Eagle, a Wild Mustang, and a Bull Moose. Eleven additional full-size patterns feature a cross-section of popular wild animals. *Wildlife Intarsia, Second Edition* also features helpful tips on shaping and sanding, as well as a colorful new photo gallery of inspiring projects.

Paperback
144 pages • 8.5" x 11"
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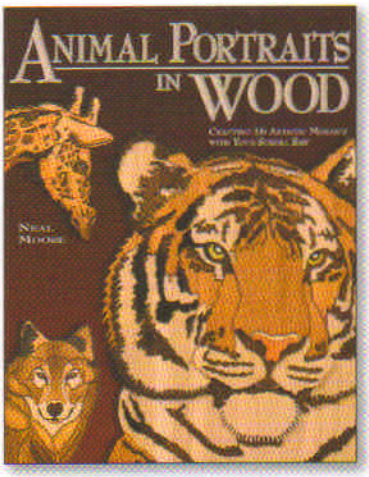


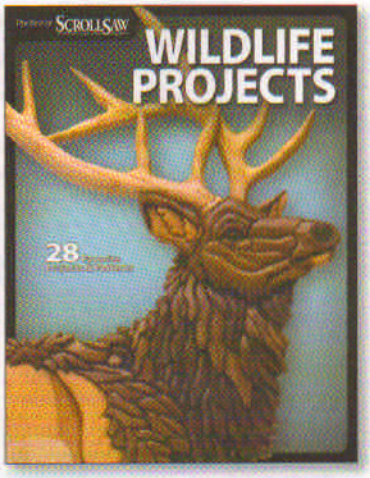
Animal Portraits in Wood

Crafting 16 Artistic Mosaics with Your Scroll Saw

By Neal Moore

The time-honored art of mosaic is updated in this book for scroll saw enthusiasts of any skill level. With 3 complete step-by-step projects, author and scroll saw artisan Neal Moore, introduces readers to "segmented portraiture:" the craft of cutting and staining wood pieces and re-assembling them like a jigsaw puzzle. Color photos, precise patterns and clear instructions make creating realistic wildlife portraits fun and easy.

Paperback
128 pages • 8.5" x 11"
Code: 29335 • $17.95



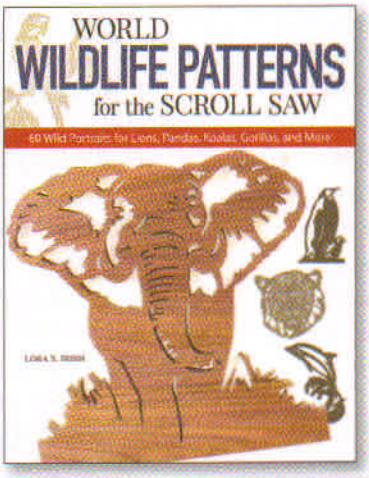
Wildlife Projects

28 Favorite Projects & Patterns

By Various Authors

The all-time favorite animal projects from the archives of *Scroll Saw Woodworking & Crafts*, *Wildlife Projects* features 28 scroll saw projects you'll love! Scroll saw patterns include birds, pets, sea life, North American wildlife, African cats, and so much more!

Paperback
112 pages • 8.5" x 11"
Code: 5021 • $19.95



World Wildlife Patterns for the Scroll Saw

60 Wild Portraits for Lions, Pandas, Koalas, Gorillas and More

By Lora S. Irish

Find the best scroll saw patterns for the world's greatest animals - from antelope to zebra. Includes more than 50 fine line patterns and a gallery of finished examples.

Paperback
72 pages • 8.5" x 11"
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Wild Animal Patterns for the Scroll Saw

By Jim Sweet

A new collection of original wood animal puzzle patterns that are perfect for beginner to intermediate scroll sawyers! Inside, you'll find six full-size wild animal scroll saw patterns, from a bear to an elk, insightful how-to tips, and guidance on sanding, finishing, and staining your projects. Each free-standing design uniquely spells the name of each animal – a Jim Sweet signature – and can be completed in just 20 minutes!

Pamphlet
8 pages • 8.5" x 11"
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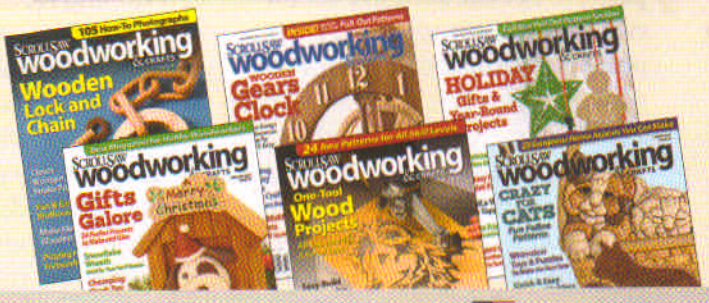

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Curious Raccoon

Capture the wide-eyed gaze of everyone's favorite backyard visitor in this striking fretwork

By Charles Hand

When I spotted this adorable raccoon, who appeared one morning from behind one of our many garden planters, the name "Curious" immediately came to mind. Curious moved from planter to planter, watching my every move. He eventually wandered off, never to be seen again—but not before giving me one last inquisitive look. I will never forget my visit from Curious, who gave me great pleasure to watch as he watched me. I tried to capture his arresting gaze in this fretwork design.

Prepping and Cutting

Sand the front and back of the blank thoroughly. Blow off the dust or remove it with a tack cloth. Attach removable Con-Tact® creative covering paper to the top of one blank. Apply spray adhesive to the back of the pattern. Let the adhesive set for two to three minutes, and then press the pattern down onto the paper, eliminating any air bubbles.

Stack the portrait blanks with the pattern on top. Hold the wood flat and the stack securely while you wrap blue painter's tape around the perimeter. Drill blade-entry holes and cut the frets. Since I use spiral blades, I sand the bottom of the stack every 10 cuts to remove the fuzzies.

Sanding and Finishing

Remove the tape from the perimeter and peel off the Con-Tact® paper. Sand the portraits carefully. For large, open areas, such as those around the ears, insert the cutout pieces before sanding to protect the delicate bridges. Use needle files to clean up tight areas.

Remove the sander dust with compressed air. Apply a clear spray finish if you don't plan to use a picture frame with glass. Attach black felt to the back of the portrait with blue painter's tape. Remove the backing board and mat from the picture frame, and line up the portrait to the back side of the mat opening. Replace the backing board and secure the portrait in the frame.

Framing Notes

A standard 11" by 14" (27.9cm by 35.6cm) mat opening is normally 10½" by 13½" (26.7cm by 34.3cm), so I designed my patterns to suit that size. Take a tape measure when shopping for a picture frame, and make sure the mat opening is exactly 10½" by 13½" (26.7cm by 34.3cm).

Charles Hand is retired from a career in electrical/mechanical design, graphic arts, and senior project management. He enjoys intarsia, fretwork, segmentation, inlay, and just about everything there is to cut with a scroll saw. Charles has won best of show and several other awards for his work and designs at local craft and woodworking shows. For more information and a tutorial on Charles' Con-Tact® paper method and framing technique, or for more of his patterns, visit scrollsawart4u.weebly.com.

Materials & Tools

Materials

- Baltic birch plywood, ⅛" (3mm) thick: 2 or 3 each 11" x 14" (27.9cm x 35.6cm)
- Sandpaper: 180- to 220-grit
- Tack cloth
- Tape: blue painter's
- Self-adhesive shelf liner, such as Con-Tact® removable covering
- Spray adhesive, such as Elmer's or 3M Super 77
- Finish: clear spray lacquer
- Felt backing, black: 11" x 14" (27.9cm x 35.6cm)
- Photo frame, matted: standard 11" x 14" (27.9cm x 35.6cm)

Tools

- Scroll saw with blades: #2/0 to #1 spiral (interior cuts), #3 or #5 reverse-tooth flat (straight cuts)
- Drill press with bits: 3/64" (1mm)-dia. or #56 wire size, 1/16" (2mm)-dia. or #53 wire size
- Palm sander: fine-grit
- Needle files (optional)
- Air compressor (optional)

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Pattern for the ***Curious Raccoon*** is in the pullout section.

Sea Otters Intarsia

Scroll and shape this simple (and adorable) ode to friendship

By Brad and Hazel Eklund

Sea otters are arguably the most adorable sea mammals in existence. The way they eat, the way they sleep—nearly everything about them makes us smile. During one of our creative itches to make something new, we quickly settled on these sleek creatures. Most strikingly, when they sleep, they hold hands to avoid drifting apart in the water. Make this portrait for a friend, partner, or anyone who's special to you; it's a one-of-a-kind gift they'll treasure forever!

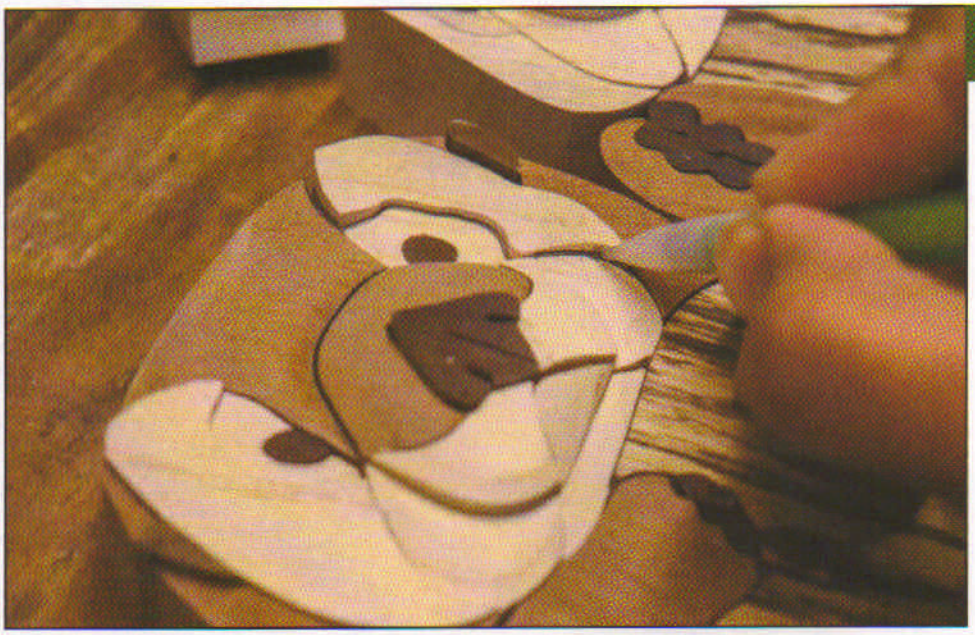
Getting Started

Select the wood you wish to use, but don't feel restricted to the types we chose. Make five copies of the pattern (or more if needed) and cut out all the different segments, leaving similar colors together. Cover the surface of the wood with blue painter's tape. Then apply spray adhesive to the backs of the pattern pieces and attach on top of the blue painter's tape.

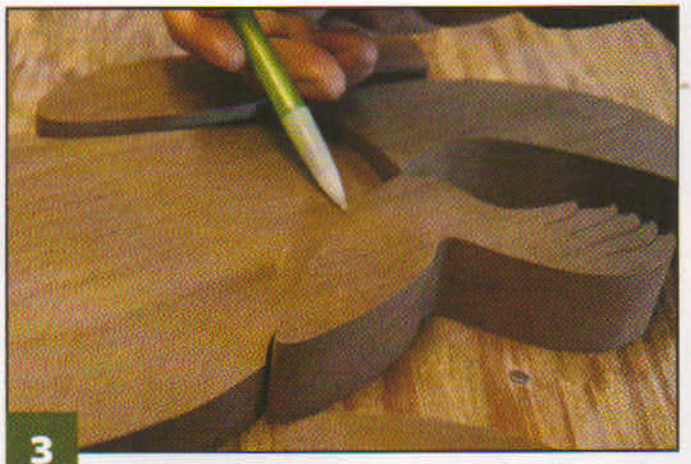
CUTTING AND ASSEMBLING

1

Cut out all the segments. We used a #5 reverse-tooth blade. Leave the light (maple) section of the face in one piece, and then cut and fit the eye and nose sections one by one, using the profile of each cut piece as a guideline for the cuts you will make on the next. Doing it this way helps to reduce gaps, keeping all the details flush with each other.

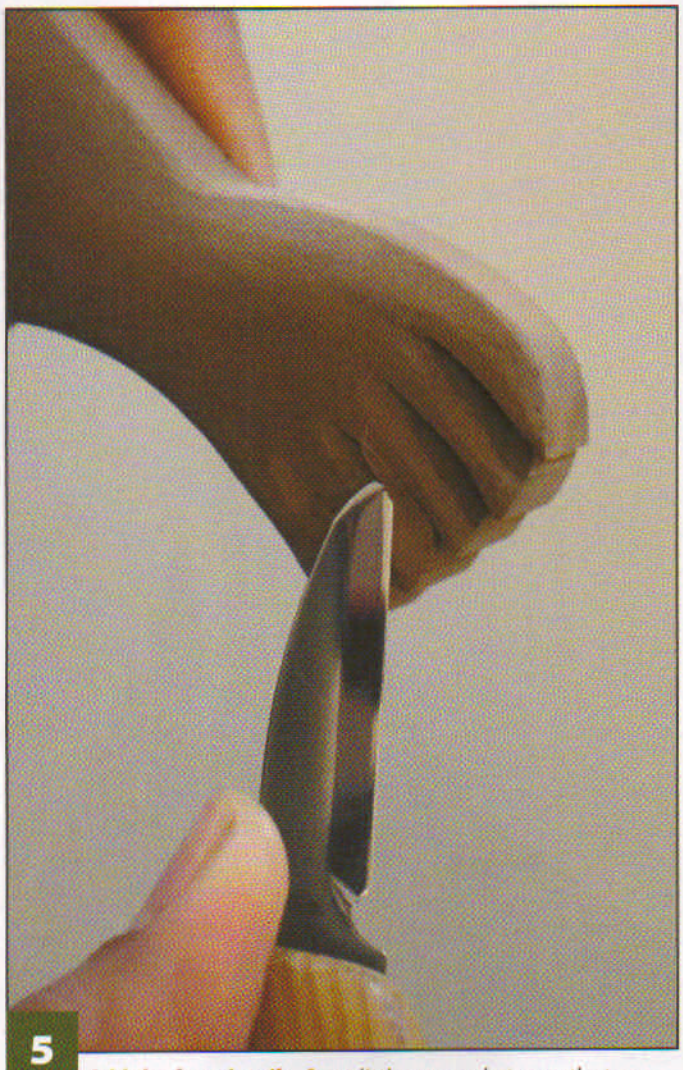


2 **Cut risers for the faces and snouts.** Secure the snout risers on top of the face risers with double-sided tape, and stick them temporarily to the face elements using the same method, so the snout stands out from the face and the face from the body. Then shape the face; begin with the forehead and work your way inward to end with the snout. We use a 12" (30.5cm) disc sander for the initial shaping, moving up through the grits from 80 to 120. Then we switch to a 6" (15.2cm) inflatable drum sander with 120-grit paper to refine the contours and round over the edges. We move to a 2" (5.1cm) inflatable drum sander with 220-grit paper to remove the sanding marks.



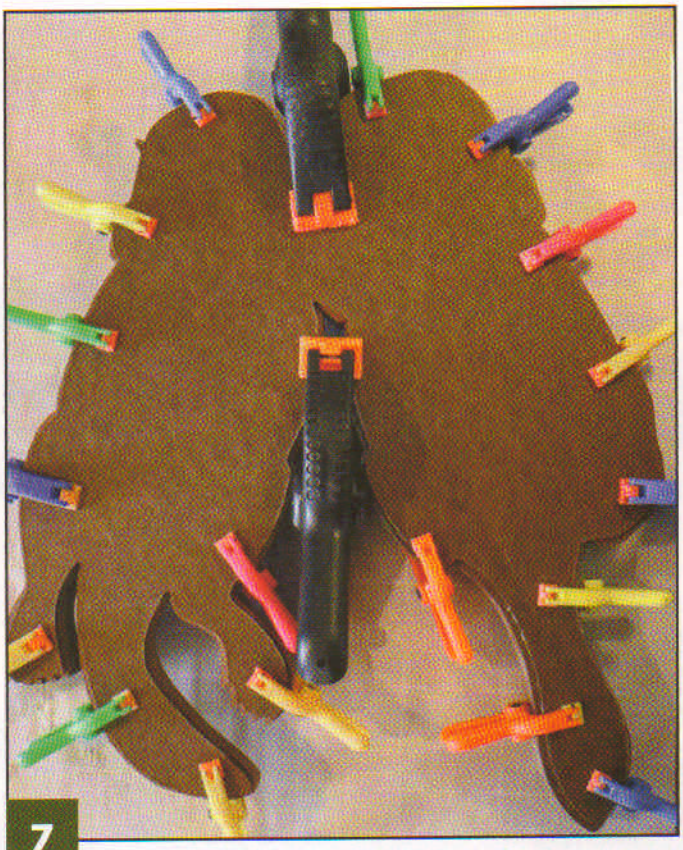
3 **Rough shape the body, hands, tails, and feet.** Use the disc sander, as before, and then refine each shape with the inflatable drum sanders, first the 6" (15.2cm) and then the 2" (5.1cm). Smooth out any remaining sanding marks with 240-grit sandpaper.

4 **Add the hand details.** Use a Dremel with a small fine-grit tapered diamond bit to make shallow groves in the black parts of the hands and give them a fingerlike appearance.



5 **Add the foot details.** Carve little grooves between the toes with a carving knife. Add the small triangular mouth area on the right otter with a skew nib (or your preferred nib) in a woodburner.

6 **Remove the double-sided tape from the face sections.** Then glue and clamp all the segments together. We used a strong wood glue, such as Titebond. Be careful not to over-glue; you don't want any excess to squeeze out through the cracks. Let dry.



7 **Trace the outline onto your backing material.** A mechanical pencil is helpful for tracing tight sections. Cut out the backing material about ⅛" (3mm) in from the traced line and glue and clamp it to the backside of the intarsia piece.

Materials & Tools

Materials

- Backing material, such as tempered hardboard, ⅛" (3mm) thick: 13" x 15" (33cm x 38.1cm)
- Plywood, ¼" (6mm) thick: face and snout risers, 2 each 2" x 4" (5.1cm x 10.2cm)
- Dark wood, such as Peruvian walnut, ¾" (1.9cm) thick: torsos, 6" x 10¼" (15.2cm x 26cm)
- Dark wood, such as Peruvian walnut, 1" (2.5cm) thick: tails and legs, 6" x 16" (15.2cm x 40.6cm)
- Black wood, such as wenge, ¾" (1.9cm) thick: noses, eyes, ears, and paw details, 3" x 4" (7.6cm x 10.2cm)
- Light wood, such as maple, ¾" (1.9cm) thick: faces, 4" x 6" (10.2cm x 15.2cm)
- Medium wood, such as teak, ¾" (1.9cm) thick: arms and necks, 6" (15.2cm) square
- Spalted wood, such as maple or oak, ¾" (1.9cm) thick: chests, 4" x 6" (10.2cm x 15.2cm)
- Pencil: mechanical
- Spray adhesive
- Tape: blue painter's, double-sided
- Sandpaper: 240-grit
- Wood glue, such as Titebond
- Finish: clear satin lacquer, high-gloss polyurethane
- Hanger: D-ring

Tools

- Dremel with bit: small fine-grit tapered diamond
- Scroll saw with blades: #5 reverse-tooth
- 12" (30.5cm) disc sander with sanding discs: 80- to 120-grit
- Inflatable drum sanders: 2" (5.1cm) with 220-grit paper, 6" (15.2cm) with 120-grit paper
- Carving knife
- Woodburner with nib: skew
- Spring clamps
- Brushes: disposable foam

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Finishing

Use a clear satin lacquer to finish the entire project. Apply several coats, following the manufacturer's instructions. Let dry. Then carefully add shine to the eyes using high-gloss polyurethane and a paintbrush. Let dry completely, attach a hanger to the back, and display.

Pattern for the ***SEA OTTERS INTARSIA*** is in the pullout section.

Brad and Hazel Eklund have been creating scroll saw art for the last seven years. They have always been fascinated by the beauty and intricacies of wildlife and nature in general. Brad has a degree in horticulture, while Hazel has a degree in wildlife. They live and work next to a nature preserve in coastal North Carolina.

COMPOUND-CUT Wizard Wands

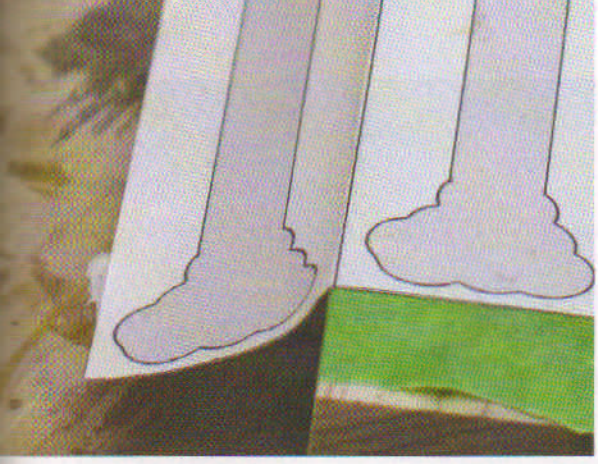
Conjure up an arsenal of these "magical" tools—just in time for Fright Night

By Al Baggetta

Follow the simple lines in the following pattern, and soon you will have a wand unlike any owned by long-forgotten wizards of yore. Will the wand possess magical powers? Probably not. But you will experience a *kind* of magic when you tap the wood you just finished cutting, and out drops a stunning scrolled creation.

My version might not be able to cast spells, but it will make a nice showpiece, a fancy pointer for a favorite teacher, or a unique baton for the school orchestra conductor. As an added bonus, you will also learn how to make an ornamented stand.

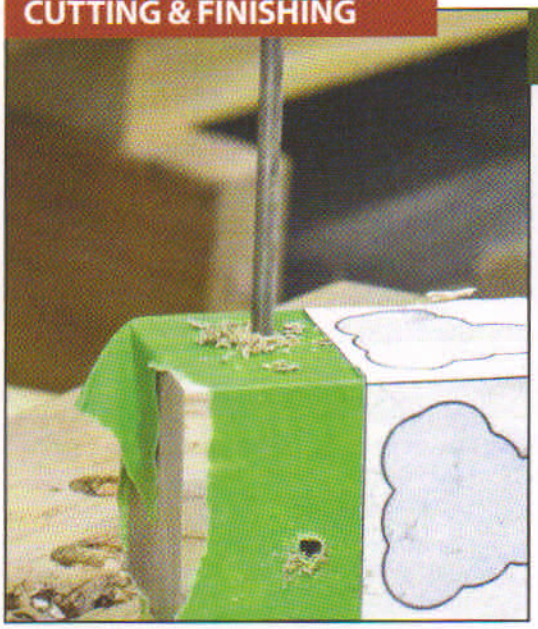
For these designs, you only need a 1" (2.5cm) square blank, about 15" (38.1cm) long. The wand is only 14" (35.6cm) long, but the added length allows you space to hold onto while cutting.



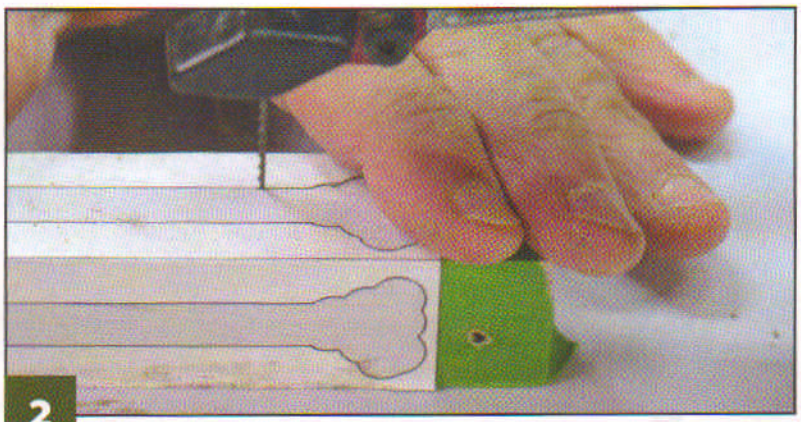
Getting Started

Choose a kind of wood; I used attractive hardwoods like maple and wenge, but you can use any variety you prefer. Cut the blank on a table saw or scroll saw. You don't need to sand the sides since the actual wand will come out of the blank's center core. Apply painter's tape or clear packaging tape to at least two adjacent sides of the blank. Photocopy the pattern you wish to use, and cover the back with spray adhesive or another adhesive of your choice; I use inexpensive glue sticks. Attach the pattern to the blank so that the middle line corresponds perfectly with an edge. *Note: If using exotic hardwoods such as wenge, be sure to research toxicity ahead of time, as wenge dust can cause severe reactions. Wear high-quality breathing and eye protection when cutting all projects on the scroll saw.*

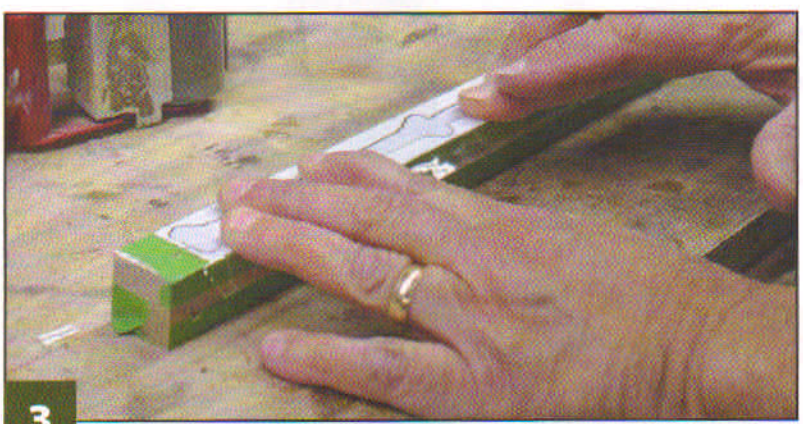
CUTTING & FINISHING



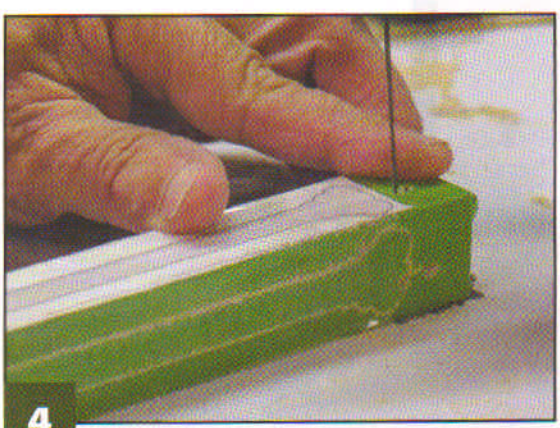
1 **Drill the blade-entry holes.** I used a drill press with a 1/16" (2mm) or 1/8" (3mm)-dia. bit depending on the design. For simpler designs like the cloud wand, you will need to drill holes outside the pattern lines, on each side where the pattern is applied. If the design includes other cut-out areas, as with the amoeba wand, you will have to drill entry holes there, too.



2 **Cut the first side.** If there are any internal openings in the design, cut those first. Then, starting at the end of the handle, cut the perimeter of the first side. I use a #9 skip-tooth blade, but a #7 is also suitable, especially if you are cutting a softer wood like pine or sycamore.

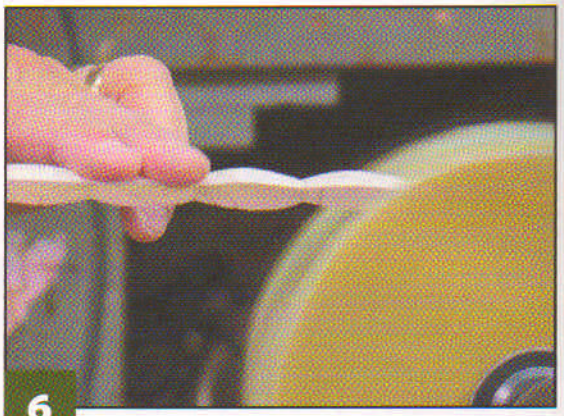


3 **Remove the blank from the saw table.** Place it on a flat surface, making sure not to drop any of the cut pieces out of the wood. Place a strip of clear packaging tape over the cut side of the blank. Do the same for the opposite side. This will ensure that the pieces stay in place and the pattern lines stay visible as you make the next cuts.



4 **Cut the second pattern view.**

5 **Remove the blank and place it on a flat surface again.** Remove the completed wand from the blank and discard the waste pieces.



6 **Sand the wand.** I like to hold the piece over my sanding mop and let the mop gently do the work. If you don't have a sanding mop, you can sand the wand manually, moving up through the grits from 120 to 320. Be careful not to press too hard on the fragile parts of the wand, or they will snap.

Finishing the Wands

When you've smoothed the wand to your liking, apply a finish. For richly toned hardwoods, I apply a clear semigloss spray lacquer; for plainer woods, I apply a stain or acrylic paints. Specialty paints like gold and silver add a nice-looking finish and give the wands a metallic look. Let dry.

Materials & Tools

Materials

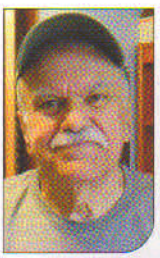
- Wood of choice, 1" (2.5cm) square: 15" (38.1cm) long
- Tape: painter's, clear packaging
- Spray adhesive (or glue stick)
- Finish: stain, clear semigloss spray lacquer, or assorted acrylic paints
- Sandpaper: assorted grits up to 320

Tools

- Table saw
- Scroll saw with blades: #7 to #9 skip-tooth
- Drill press with bits: 1/16" (2mm) or 1/8" (3mm)-dia.
- Sanding mop

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Patterns for the ***COMPOUND-CUT WIZARD WANDS*** are in the pullout section.



Al Baggetta is a retired English teacher and former musician who took a liking to the scroll saw. Visit his pattern site at baggetta.com.

ON THE WEB Plans and instructions for the wand stand on our website.
scrollsawer.com

Layered Crane Fretwork

Find your happy place with this serene nature scene

By Sue Mey
Cut by Robert Carpentier

I've always found mountains, trees, and still bodies of water to be calming and reassuring, perhaps because they change so slowly. If you find yourself needing to escape into nature these days, this layered lakeside scene is a wonderful place to start. Cut it from a variety of colorful hardwoods or apply different stains and paints to a light-colored plywood of your choice.

Prepping and Cutting

Pre-sand the blanks using a flex drum sander with a 120-grit pad. Stack the layers together in order, with the frame layer (Layer 1) on top, attaching them temporarily with pieces of thin double-sided tape. Cover the stack with blue painter's tape and attach the Layer 1 pattern with spray adhesive. Cut the perimeter on a scroll saw—I used a #5 reverse-tooth blade—and separate the stack.

Trim the remaining patterns on the perimeter pattern lines using scissors. Cover each remaining layer with blue painter's tape and then attach the patterns with spray adhesive. Drill the blade-entry holes and make the interior cuts with a smaller blade, such as a #2. *Note: I included additional overlay patterns for flying geese and the sun, which you can include in your scene if desired.* Gently remove the patterns and set Layer 4 on the piece of tempered hardboard (or your preferred backer wood). Mark the outline of Layer 4 on the hardboard and set Layer 4 aside. Then cut the tempered hardboard backer, staying inside the line by about 1/16" (2mm) all the way around.

Sanding and Finishing

Sand the layers with a sanding mop, and then hand-sand moving up through the grits to 280; take special care to sand the edges of the layers flush with each other. Round over the outer edge of Layer 1 with sandpaper or a roundover bit in a router. Glue and clamp the layers in place, one at a time, including the backer, again making sure the edges are flush. Let dry and finish as desired; I applied several coats of clear satin spray polyurethane, letting the finish dry thoroughly and sanding lightly between coats. Attach a hanger to the back and display.

Expand the design to include flying geese and the sun.

Materials & Tools

Materials

- Wood, such as cherry, 3/8" (1cm) thick: Layer 1, 8¼" x 12¾" (21cm x 32.4cm)
- Wood, such as bubinga, 3/16" (5mm) thick: Layer 2, 8¼" x 12¾" (21cm x 32.4cm)
- Wood, such as walnut, 3/16" (5mm) thick: Layer 3, 8¼" x 12¾" (21cm x 32.4cm)
- Wood, such as blue pine, 3/16" (5mm) thick: Layer 4, 8¼" x 12¾" (21cm x 32.4cm)
- Tempered hardboard or wood of choice, 3/16" (5mm) thick: backer, approximately 8¼" x 12¾" (21cm x 32.4cm)
- Tape: double-sided, blue painter's
- Pencil
- Spray adhesive
- Sandpaper: assorted grits
- Wood glue
- Finish, such as clear satin polyurethane
- Hanger: saw tooth

Tools

- Scroll saw with blades: #2, #5 reverse-tooth
- Drill with bit: 1/16" (2mm)-dia.
- Scissors
- Router with bit: roundover (optional)
- Sanders: flex drum with 120-grit pad, sanding mop
- Clamps

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Patterns for the ***LAYERED CRANE FRETWORK*** are in the pullout section.

Sue Mey lives in Pretoria, South Africa. To see more of her work, including a wide variety of patterns and pattern-making tutorials available for purchase, visit scrollsawartist.com. She can be contacted at suem@storage.co.za. Her pattern book, Lighted Scroll Saw Projects, *is available from schifferbooks.com and other outlets.*

Filigree Owls

This family of winged watchers is nothing to fret about

By Keith Fenton
Cut by Joe Pascucci

We've long viewed owls and other birds of prey as charmingly creepy emblems of the season, but these understated designs are tasteful enough to leave up all year. Hang my friendly fretwork ornaments on your Halloween tree, in a window, or just about anywhere you can think of! Whooo's to say they won't bring you good luck?

Note: You can cut this project out of any tight-grained hardwood between ⅛" (3mm) and ¼" (6mm) thick. If you use ⅛" (3mm) or thinner, I recommend stacking at least two layers at once in order to make the intricate cutting easier.

Getting Started

Photocopy the patterns and prepare the blanks. I pre-sanded with an orbital sander, moving up progressively through the grits from 100 to 220. Remove all excess dust with a clean cotton cloth. If you are stack-cutting thin layers of wood together, stack the blanks now, wrapping the edges with clear packaging tape to ensure that they stay aligned while you cut.

Cover the blanks with blue painter's tape, and then attach the patterns to the tape with temporary-bond spray adhesive, making sure the grain runs vertically up the body of each owl. Drill the blade-entry holes for the frets. Then drill the holes for the hangers. Once all the holes are drilled, flip the pieces over and sand the backs again, so they sit perfectly flat during cutting.

Cutting and Finishing

Cut the designs, beginning with the interior cuts. Cut the perimeters after all interior cuts are made. Gently remove the patterns and hand-sand the fronts and backs with 220-grit to remove any fuzzies and soften the edges. Be careful not to catch an edge in the delicate fretwork areas. Use a sanding stick to remove any burrs and fuzzies that remain. Again, remove excess dust with a clean cotton cloth.

Finish the owls. For the walnut version, I applied a few coats of semigloss spray lacquer, allowing ample drying time and sanding lightly with 400-grit between coats. For the plywood versions, I sprayed them with a few light coats of black acrylic paint, and coated them with the semigloss lacquer once dry. Thread a cord of choice into each hanger hole and display.

Filigree Owl Patterns

Materials & Tools

Materials

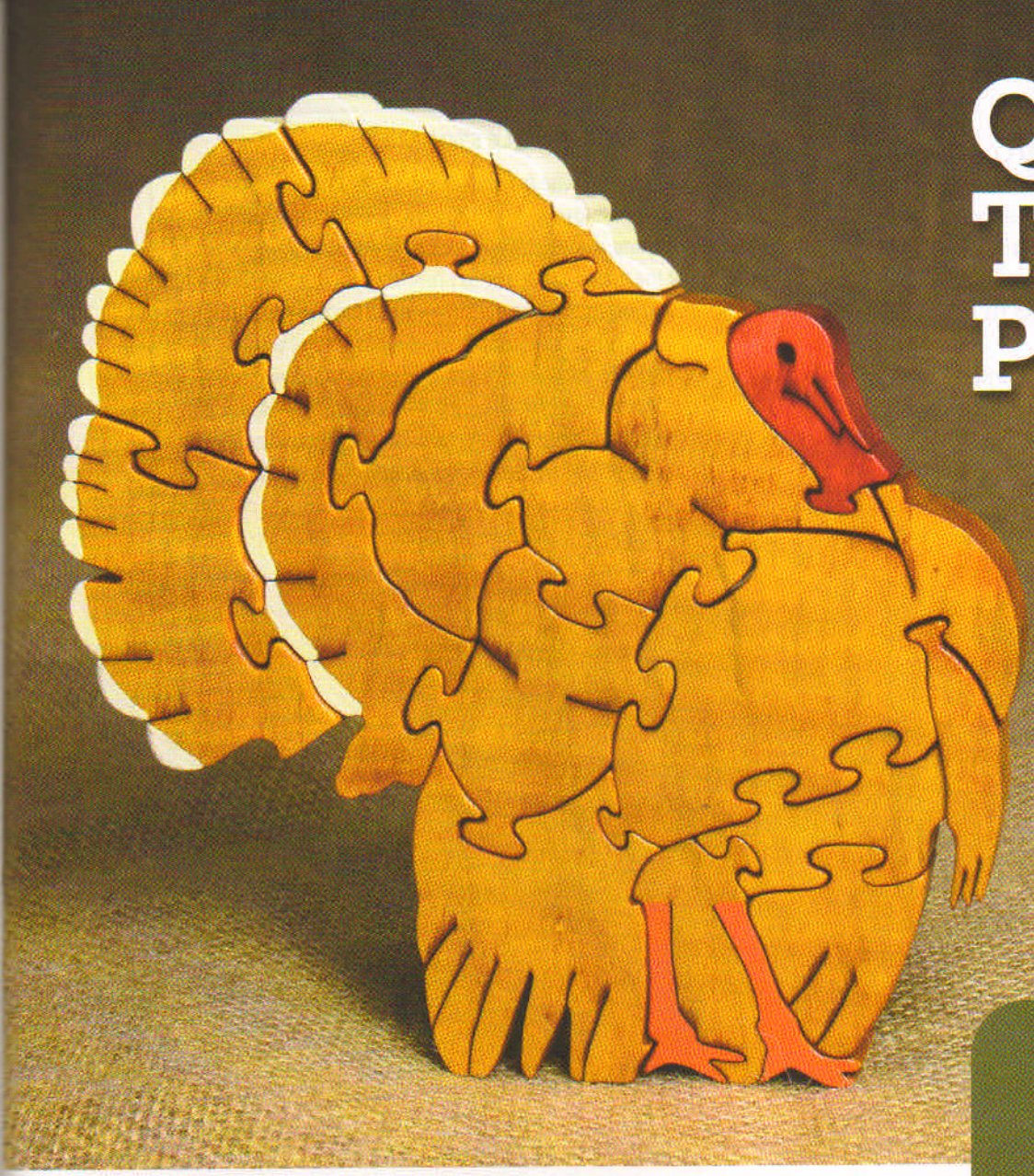
- Wood, such as Baltic birch plywood or walnut, ¼" (6mm) thick: 3 each approx. 4" x 5" (10.2cm x 12.7cm)
- Tape: clear packaging (optional), blue painter's
- Spray adhesive: temporary-bond
- Clean cotton cloths
- Sandpaper: assorted grits up to 400
- Spray acrylic paint: black (optional)
- Finish, such as clear spray varnish
- Small cord or hanger (for display

Tools

- Drill press with bit: assorted small
- Scroll saw with blades: #2/0 reverse-tooth
- Sander: orbital with grits up to 220
- Sanding sticks

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Keith Fenton has been designing scroll saw patterns for several years alongside his partner, Sheila Landry. Together they have contributed patterns and articles to several woodworking and painting magazines and e-zines. Visit their website at sheilalandrydesigns.com to see their entire selection of patterns, including free samples. If you have any questions about this project, send Keith a message at sheilalandrydesigns@gmail.com.



Quirky Turkey Puzzle

Get in the holiday spirit with a festive gobbler fit for kids and adults

By Tim Gilman

The puzzles I make generally stand upright, but because turkeys have heavy bodies and tiny legs, this project presented a special challenge! After observing the bird, I noticed that turkeys often stand with some feathers touching the ground, so I designed a puzzle that uses the feathers for support. The result is a piece of interactive art that everyone—children, animal enthusiasts, lovers of the fall season—can appreciate.

Getting Started

Choose a kind of wood; I prefer to use soft maple for most puzzles, as it cuts and sands well. Also, since maple is light in color, I can dye it to match the subject matter. Prepare the wood with a drum sander or sand the surface with an orbital sander; I sand the wood to 180-grit.

Attach the pattern with the grain running vertically; I use scroll saw tape because it's clear, odorless, and repositionable, but you can use blue painter's tape and spray adhesive or a glue stick if desired. Drill a 1/16" (2mm) blade-entry hole for the eye. (If you want to keep it simple, use a larger bit and drill the hole the exact size of the eye.)

Making Mistakes

One of the advantages of this project is that no two turkey feathers are alike, so keep that in mind while cutting. If you stray a little bit from a line, you needn't worry, as long as you gradually work your way back. In the scroll saw classes I teach, I know people initially strive for perfection and find it refreshing when I share that we all make mistakes. I remind them that when you peel away the pattern, no one knows where your lines were supposed to be; all that matters is that the end product looks nice and functions well as a puzzle.

Cutting the Puzzle

Cut the perimeter. Before I start cutting the puzzle pieces, I replace the blade so I know I am working with a fresh one. Relax and take your time, letting the blade do the work. Cut the outside lines for the feathers, mouth, and feet. While you still have some mass to hold onto, cut the eye and then the head.

Cut the remaining pieces. Depending on your skill level and choice of blades, you may need to change blades several times. After each piece is cut, I test the fit of the puzzle piece to ensure the table is square and the blade is tight. You should be able to remove each one from the front and from the back. If the fit is off, adjust the table and re-tension the blade as needed.

Remove the patterns. Then remove any fuzzies and soften the edges with an 180-grit sanding mop mounted in a drill press. I have the mop mounted in a Forstner bit extension to make it easier to sand the pieces. Then I carefully vacuum the pieces to remove excess dust.

Painting and Finishing

Apply a finish. I find dyes to be the fastest way to add color to scroll work. For this puzzle, I used TransTint® bright red for the head and legs and honey amber for the rest. This dye is sold in concentrated form and can be thinned with water or denatured alcohol, but I prefer to thin with Behlen Solar-Lux Reducer, as it dries quickly and doesn't raise the grain. I keep each color of dye premixed in large plastic containers. Dip each individual piece in the dye, remove it, and blot dry with high-quality paper towels.

Add thinned acrylic paint, if desired. When I first considered painting scrollwork, I found it intimidating, but I have since discovered that if you can develop the control required to cut with the scroll saw, you can develop the control needed to paint. I used parchment for the tips of the tail feathers and flame for the feet. Build up several coats until you're satisfied with the level of color. Let the pieces dry for 24 hours, and then dip each one in a clear finish such as Arm-R-Seal. Blot with paper towels and let dry.

TIP

EASY PUZZLE STORAGE

It takes a long time to cut a puzzle, so the last thing you want to do is lose or drop a piece. To prevent this from happening, I always keep a tray near my scroll saw. I put the pieces in the tray as I cut them; then, when it comes time to move to a different work station, I just carry the tray over. Leftover cardboard beverage trays work well for a number of tasks. When I need to free up drying racks, I move puzzles that are dry to the touch into trays again. I put one layer of pieces in the tray. When I fill another tray, I rotate it 90° and place that one on top of the first tray. Rotating the trays makes it possible to stack several on top of one another, and allows for plenty of air movement so the finish on each layer can continue to dry.

Materials & Tools

Materials

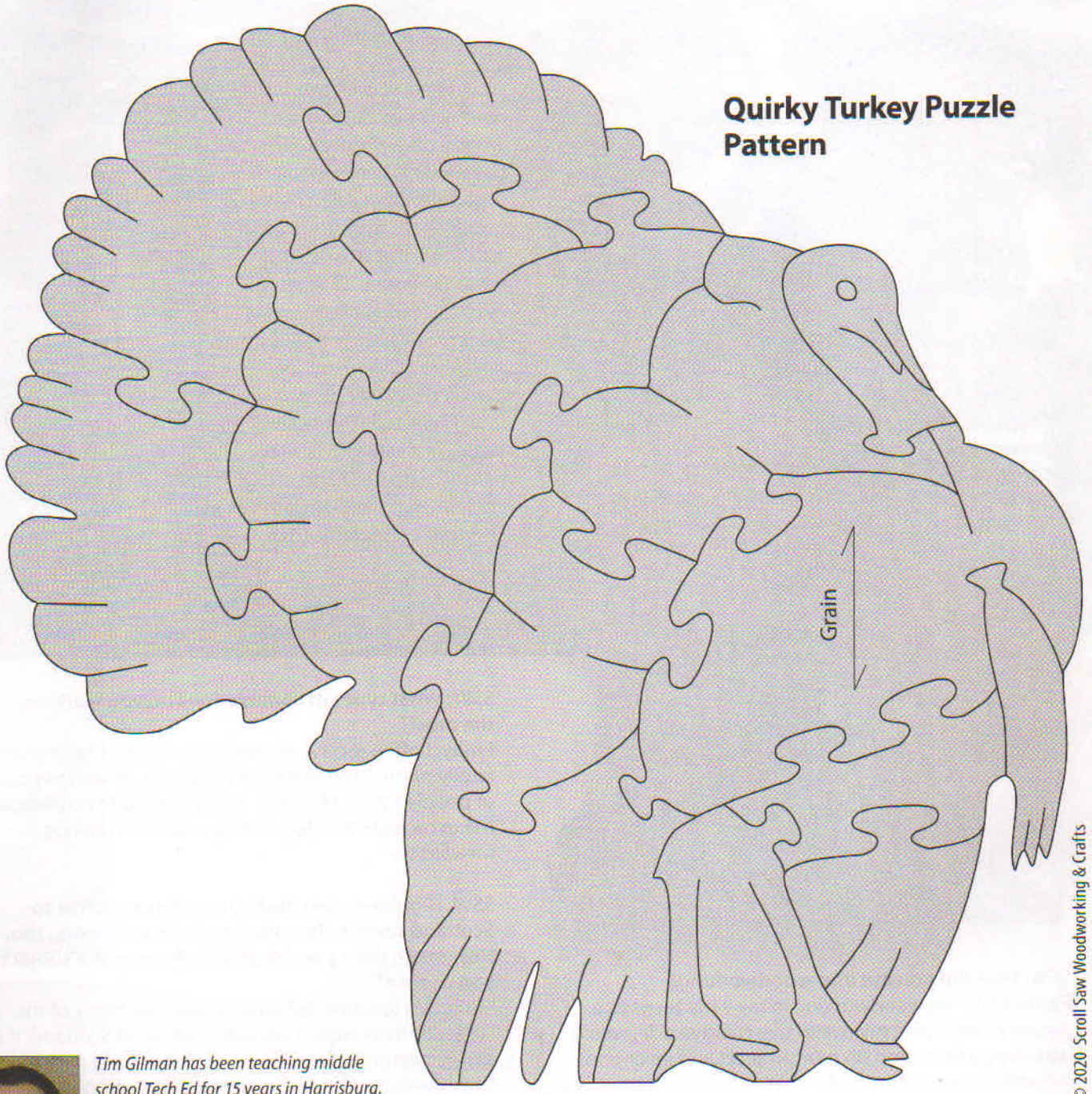
- Maple or hardwood of choice, ¾" (1.9cm) thick: 7" x 7¼" (17.8cm x 18.4cm)
- Scroll saw tape (or blue painter's tape and spray adhesive or glue stick)
- Thinner, such as Behlen Solar-Lux Reducer (optional)
- Stain or liquid dye, such as TransTint®: bright red, honey amber
- Acrylic paints, such as CraftSmart: flame, parchment
- Finish: clear, such as General Finishes Arm-R-Seal
- High-quality paper towels

Tools

- Scroll saw with blades: #7 reverse-tooth
- Sander: drum or orbital
- Drill press with 180-grit sanding mop, 1/16" (2mm)-dia. bit
- Vacuum
- Paintbrushes: assorted small
- Cardboard trays (optional)

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Quirky Turkey Puzzle Pattern



Tim Gilman has been teaching middle school Tech Ed for 15 years in Harrisburg, Pa. After the birth of his first child, Grayson, he started cutting scroll saw puzzles and now sells them at craft shows. He also teaches scroll saw classes at his local Woodcraft store. Find more of his work at graysonsworkshop.com.

Woodworking in the Lowlands

Emily Lewis' segmentations celebrate rainbows, biting insects, and everything in between

By Kaylee Schofield

Based in Bathgate just west of Edinburgh, woodworker Emily Lewis has made it her mission to highlight all aspects of her homeland—from the bold and beautiful thistle (the national flower of Scotland) to the dreaded Highland midge. Specializing in shaped portraits made from local materials, Emily doesn't do intarsia in the traditional sense; instead, she "finger-paints" with stains to create enchanting compositions for children and adults alike.

The thistle was adopted as the emblem of Scotland in the 13th century.

SSW: How did you get into woodworking?
Emily: I fell into woodworking in my early teens as a means of satisfying my overactive creative side, which was always dreaming up new projects and inventions. Woodwork was an outlet for that creativity; I have always loved the satisfaction of making something with my own hands. However, it was only in the past couple of years that I took this intermittent pastime more seriously and developed the skills to start my small business, Ingrained Moments Woodcraft—centered on my scroll saw, of course!

SSW: What types of commissions do you work on the most?
Emily: I often receive commission requests to recreate family photos and marriage proposals, as well as portraits of people's pets. My mum is threatening to commission me to recreate her dog, Teddy, which I'm looking forward to.

SSW: Highland cows and other animals native to Scotland seem to feature heavily in your work, too. How much does your location influence the subjects you choose?
Emily: My location definitely influences many of the subjects in my work. I am proud to live in Scotland. It is a truly beautiful place, with so much variety packed into a relatively small area. Having said that, despite its size, there are still many areas that I have yet to visit, so I feel like I am always exploring. For this reason, I really like to bring the animals and landscapes of Scotland into what I do. Also, given that I use locally sourced wood for all of my work, it feels appropriate to match my subjects with the materials.

SSW: Where do you source your materials?
Emily: Scottish hardwoods are my primary material. My main source is a fantastic sawmill about 15 miles from where I live; all their wood is sustainably harvested and I love being able to use locally sourced material. I do occasionally see photos of more exotic wood types online and feel temporarily tempted to give them a try, but I soon revert to being more than content with the native varieties right on my doorstep! I most often use sycamore and ash for my scroll saw projects because it's relatively easy to work and doesn't have too strong a grain pattern. I love being creative with the shapes, sizes, and species of wood on which I mount my projects, too.

SSW: Many of your pieces incorporate vivid, vibrant hues. What's your technique for adding color?
Emily: My main source of color is Chestnut Products Spirit Stains. They come in a wide range of colors and are available in relatively small quantities, which is ideal for intricate scroll saw work.

I enjoy using color in a variety of ways depending on the style of the project. Many of my pieces aim for a realistic representation of the subject. In this case, no matter how great the color range, blending is required. Sometimes I premix very small amounts of stain before application, but generally I mix the stains by quickly applying several layers onto the wood and using my thumb to smudge them together, as if I'm finger painting. Being alcohol-based, they sometimes aren't the easiest to blend—but with practice, I've found them to be incredibly versatile. For more precise coloring, I sometimes wait until the stain is almost dry on the brush before using it to minimize bleeding.

Aside from the realistic-looking pieces, I also enjoy making more surreal artwork, such as the dinosaur piece in this edition. These are really a perfect opportunity to go crazy with whatever colors appeal to you. I love the freedom of this type of project. For situations like these, I sometimes use thin washes of acrylic paint as an alternative to the stains mentioned above. I find that acrylics give slightly bolder tones than stains. Also, being slightly more economical and easier to mix, they definitely have their place in my workshop.

SSW: What's next for you?
Emily: I find it really interesting to see the diversity of projects that a scroll saw can achieve; I have only just scratched the surface myself. That said, I am gradually building up a collection of scroll saw artwork centered on the theme of endangered or lesser-known Scottish wildlife, and hope to run a small exhibition in the future—watch my website for updates!

For more of Emily's work, visit ingrainedmoments.co.uk or find her on Etsy at IngrainedMomentsShop.

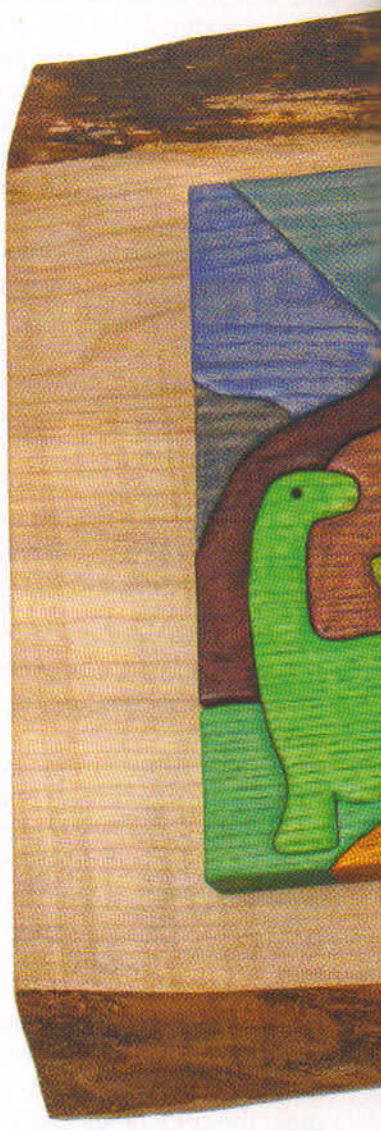
Emily's work ranges from colorful depictions of native wildlife (from top right, *Highland Cow, The Scottish Midge,* and *Rainbow*), to personalized items, such as the engagement gift below.

Colorful Dinosaur SEGMENTATION

Cut and shape a charming scene straight out of prehistory

ScrollSchool Family Workshop Project

By Emily Lewis



Majestic and mysterious, dinosaurs ignite the imagination like nothing else. This project is full of friendly creatures and cheery colors that are sure to delight the young and young at heart. In addition to the 50 individual pieces used to create the scene, I have also included two simpler alternative patterns, each of which can be created using the exact same process.

Selecting Materials

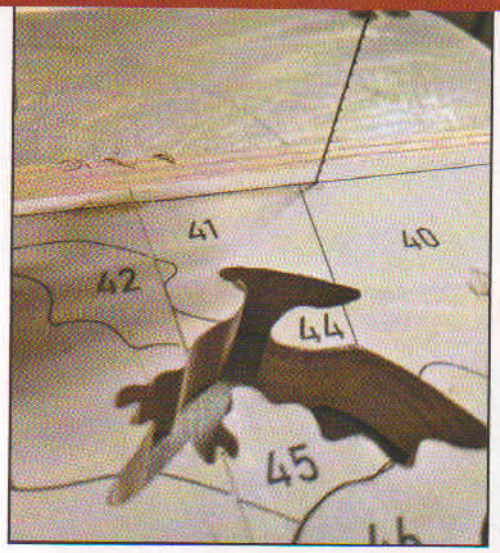
Wood choice is up to you, but I recommend a variety durable enough to support the more fragile pieces of the segmentation. I prefer to showcase local native hardwoods and feature their beautiful grains in all my projects. If you plan to add color with paints and stains, a lighter wood will work well; however, you can establish color with assorted exotic hardwoods, as with traditional intarsia projects, if desired.

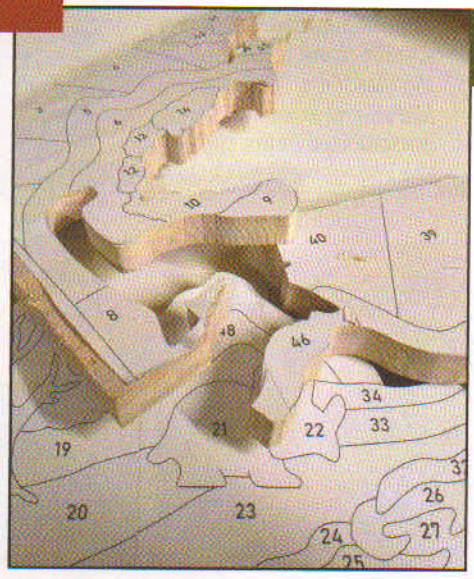
I suggest you print two copies of the pattern, so that once you've used the first to cut out the components, you can use the second to help piece them back together.

Getting Started

Attach the pattern to the wood. I use a basic glue stick, as the adhesive holds well during cutting but leaves little residue. If you are using a section from a larger piece of stock, isolate the working area by roughly sawing around the pattern perimeter. Drill the holes for the dinosaur eyes using a ⅛" (3mm)-dia. bit. Drill at least ¼" (6mm) down into the wood to create a well-defined eye. Do this before you cut out the pieces, as the uncut pattern is much easier to stabilize.

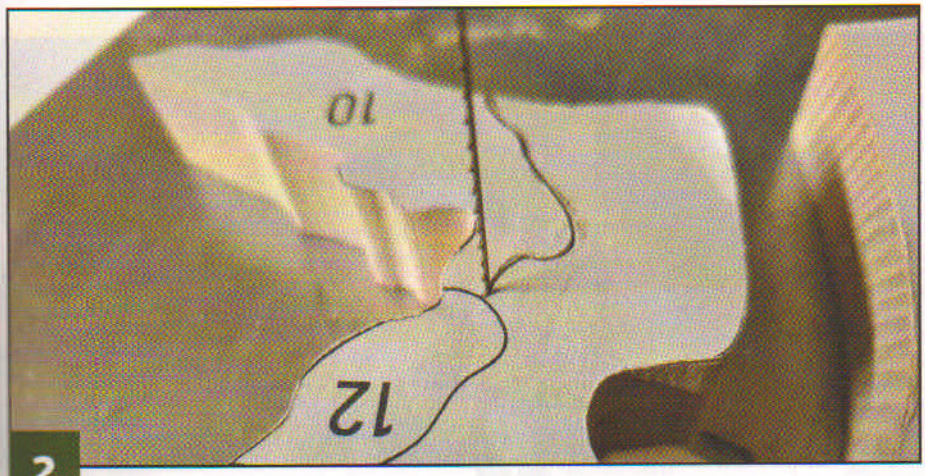
CUTTING AND SHAPING





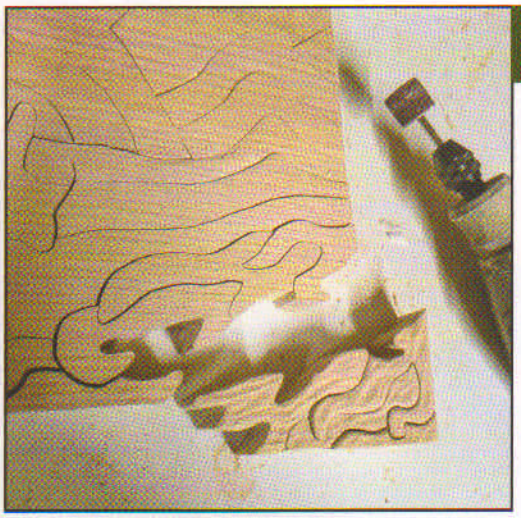
1

Cut the pieces on a scroll saw. I generally cut some of the internal details first, and then cut the entire perimeter. This way, I can ensure a straight line around the outside. Work steadily to keep the blade on the lines, but don't worry if you veer a little off course; you can gradually navigate back to the original path so that any small errors will be hardly noticeable. Once the perimeter is cut, divide the overall pattern into several smaller sections by cutting connected lines across the span of the piece. This is particularly beneficial if you are using a smaller scroll saw with a limited working area, as larger patterns can be harder to maneuver.



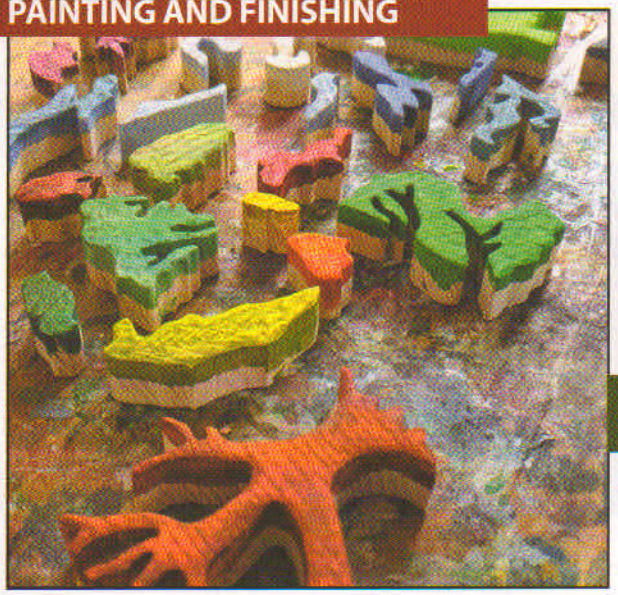
2 **Cut out the remaining pieces.** Plan each cut before you make it, as some lines are easier to follow and connect than others. Limit the number of sharp turns needed by considering the best direction of approach in each instance. If you find a corner particularly tight (like the areas around the pterodactyl's legs), back the blade out, rotate the piece, and then cut into the wood from the other side until the two cuts connect.

3 **Write the number of each piece on its base.** Then remove the patterns by hand and lightly sand all the pieces to eliminate fuzzies. I used a spindle sander.



4 **Dry-assemble the scene.** Match the numbers on the back of each piece to the reference pattern you printed out. Then soften the edges of each piece by using a sander to round the corners. I used a rotary tool with a 120-grit sanding drum. Go over each piece a second time with a finer grit, such as 240, to remove any obvious residual sanding marks and produce a smooth finish. If desired, use the same tool to add a slight texture to the water and tree foliage.

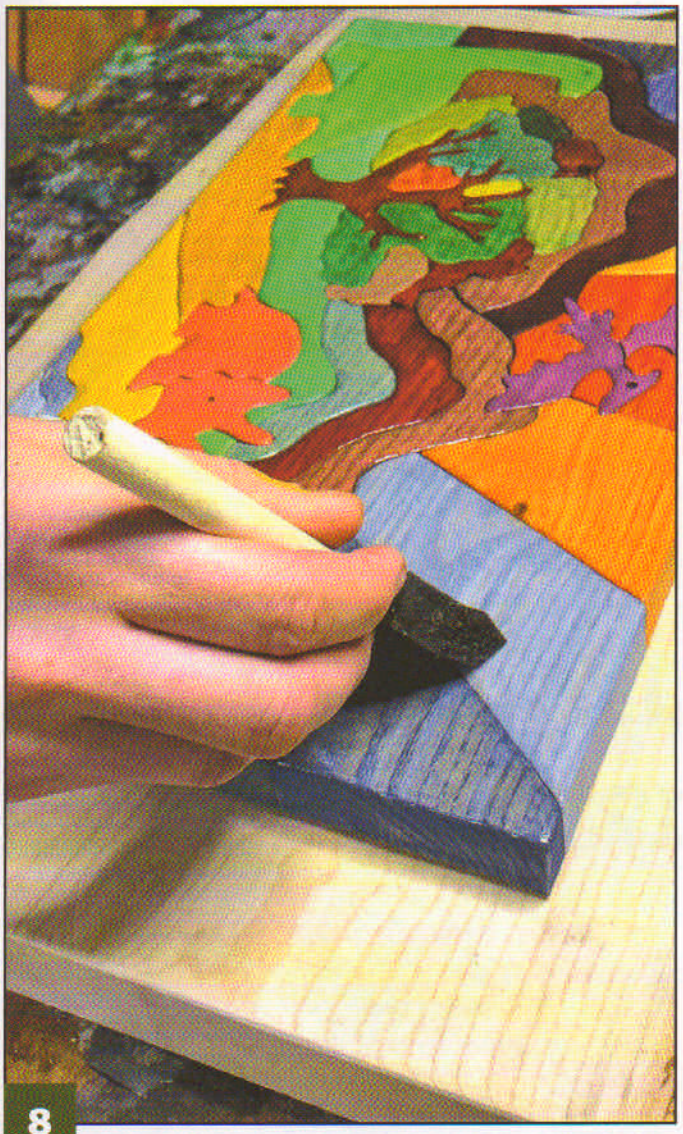
PAINTING AND FINISHING



5 **Paint the project.** I like to use acrylics to make the colors really pop. Make sure to thin them sufficiently so the wood grain shows through. Alternately, you could thin them only slightly and then wipe off the excess immediately after application. You could also stain the pieces, if desired—the colors you choose are entirely up to you. Let dry.

6 **Glue the pieces together.** I used cyanoacrylate (CA) glue, but you can use wood glue, if you prefer. To reduce the likelihood of any problems, keep all pieces in their final position during this process, removing them only to add glue to the adjoining side before replacing and holding in place until set. A little glue goes a long way. Wipe off any squeeze-out immediately with a clean cloth.

7 **Add a backing board.** I used a combination of cyanoacrylate (CA) and Gorilla glue to attach the scene. If you wish to mount the piece to a wall, screw saw-tooth hooks into the back of the backing board after the glue has dried.



8

Apply a clear finish. I use a coat or two of Osmo Polyx®-Oil Interior Satin finish for a slight shine. Follow the instructions on your chosen product to ensure successful results. Let dry and display.

ON THE WEB Find two bonus dinosaur patterns on our website.
scrollsawer.com

Materials & Tools

Materials

- Wood, such as ash, ½" (1.3cm) thick: dinosaur scene, 7¾" x 13¾" (19.7cm x 34.9cm)
- Wood, such as sycamore, 2" (5.1cm) thick: backing board, 13½" x 18" (34.3cm x 45.7cm)
- Adhesive: glue stick, cyanoacrylate (CA) glue, Gorilla glue (for securing project to backer)
- Pencil
- Acrylic paints or stains: assorted
- Finishing oil or wax, such as Osmo Polyx®-Oil Interior Satin
- Hangers: saw-tooth (optional)

Tools

- Scroll saw with blades: #7 MGT or similar
- Spindle sander
- Rotary tool with sanding drum: 120- to 240-grit
- Drill with bit: ⅛" (3mm)-dia.
- Screwdriver
- Paintbrushes: assorted
- Foam brush or cloth (for applying finish)

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Pattern for the **COLORFUL DINOSAUR SEGMENTATION** is in the pullout section.

Emily Lewis is a Scottish artist using native hardwoods as her medium. Her trusty scroll saw has played a huge role in the development of her small business. She particularly enjoys developing original and one-off patterns using organic shapes, and regularly receives commissions to create personal artwork portraying animals, people, and landscapes. For more of Emily's work, visit ingrainedmoments.co.uk or check out her Etsy shop at IngrainedMoments_Shop.

Hummingbird Puzzle Box

Let this tough little flier guard all your tiny treasures

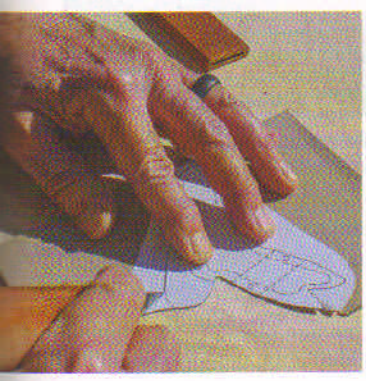
By John Rhyne

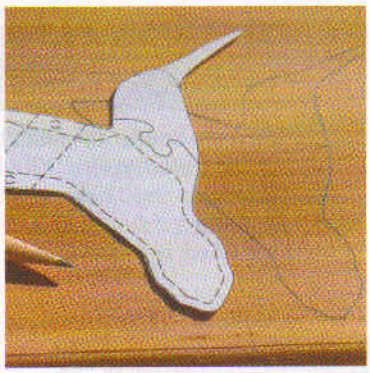
Ruby-throated hummingbirds grace my garden every summer. These small birds exude something magical in the way they dart up and away at a speed that leaves you longing for another glimpse. They are amazing symbols of tenacity and endurance, flying nonstop for 500 miles over the open waters of the Gulf of Mexico on their yearly migration. They are the perfect subject for a puzzle box intended to hold small treasures.

I'm giving instructions for a softwood hummingbird box that is easily modified for hardwood. Softwood is lightweight, easier to saw, and readily available at local home stores. It also requires a bit of reinforcing not required for hardwood. (Note that the top version in the main image is hardwood, and the lower, softwood. I reinforced the beak for the second but left it in one piece for the first.) Both give nice results. You may have to reduce the size of the pattern to fit your scroll saw; my Dewalt is rated for 2" (5.1cm)-thick material.

Before You Begin

Blade selection will ultimately depend on the wood you choose and the variety you're most comfortable with. The smaller the blade, the more precisely your pieces will fit together.



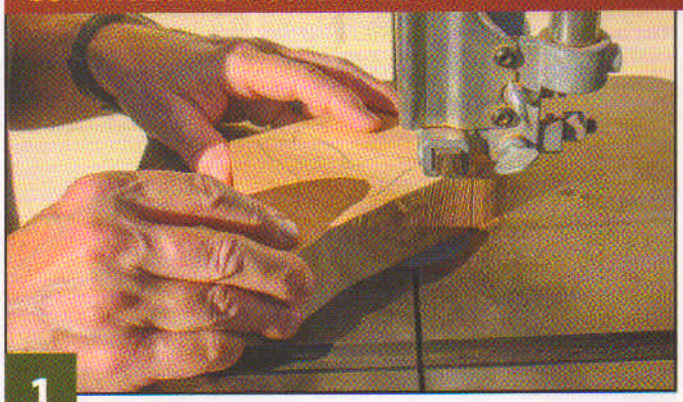


Getting Started

Choose a kind of wood; my personal favorite is western red cedar, as it is lightweight and its grain structure and color variation make for a very attractive box. Other types of wood are perfectly acceptable; just remember, the harder the wood, the more difficult and time-consuming it will be to cut.

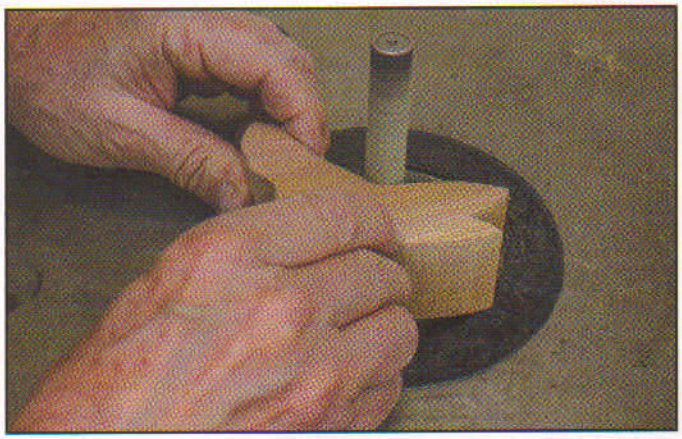
Transfer the pattern to the wood; I traced around the template with a pencil, but you can use repositionable spray adhesive if desired. If I plan to make several boxes in a sitting, I'll attach the pattern to a thin piece of cereal box cardboard and carefully trim out the template; this way, the pattern will survive repeated uses without crumpling.

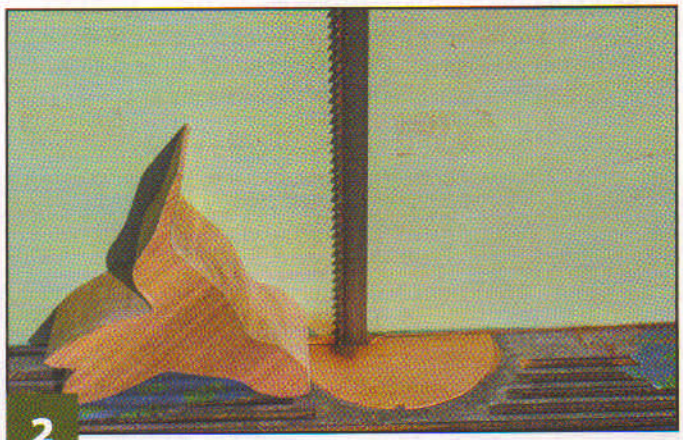
CUTTING AND ASSEMBLING



1

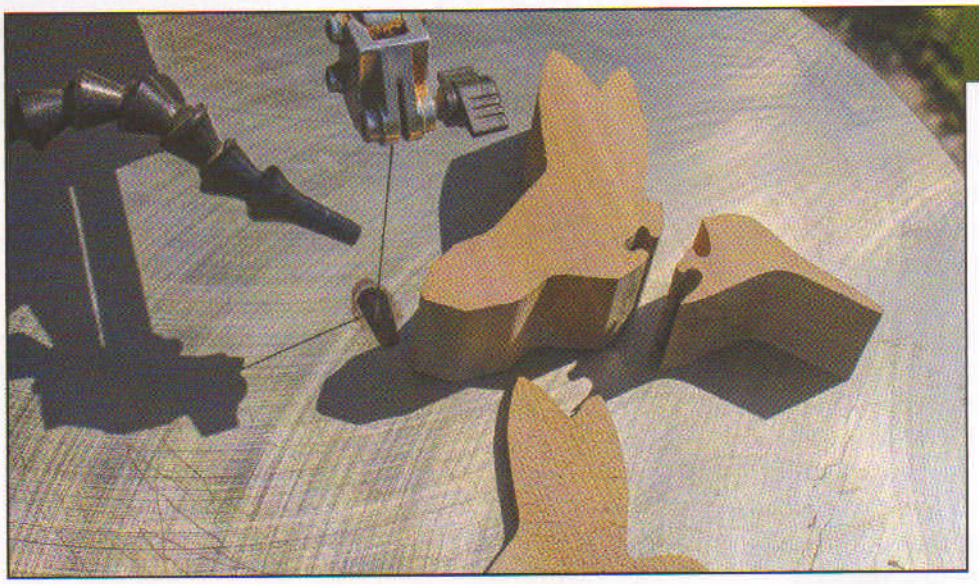
Check the blade on your saw to make sure it is perfectly square to the table. Cut the box outline. I typically use a band saw with an ⅛" (3mm) blade, but you can use a scroll saw, if desired. Cut just to the outside of the pattern line. It's easy to get impatient and try to force the cut, but go slow. Too much force can bow or cup your cut.



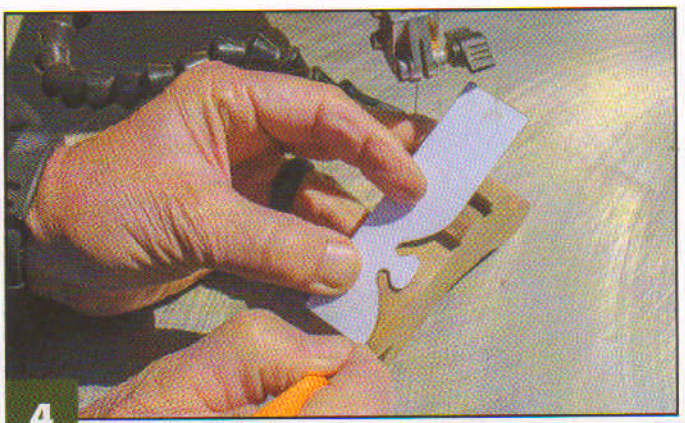


2

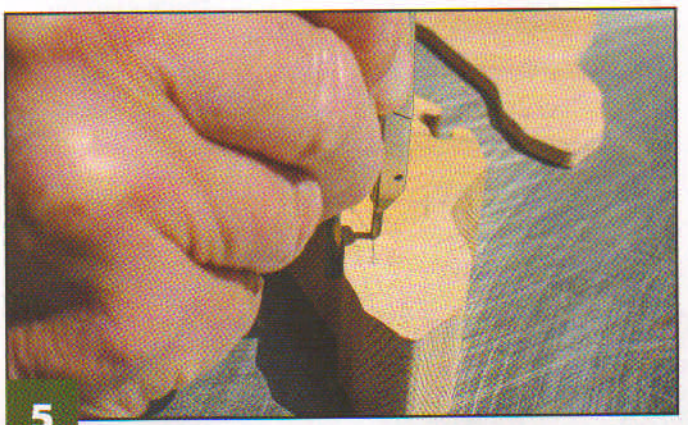
Sand away all saw marks and imperfections. I used an oscillating spindle sander to smooth the sides, moving up through the grits from 100 to 240. Once again, do not force the sanding. Your sides will need to sit perpendicular to the face of the hummingbird blank in order for the remaining cuts to be effective, so periodically check that your spindle and table are at 90°. Next, remove a ¼" (6mm)-thick slice from the bottom of the box blank using a band saw with a ½" (13mm) resaw blade (or whichever blade you prefer). Be especially careful around the thin beak area, as it can easily break.



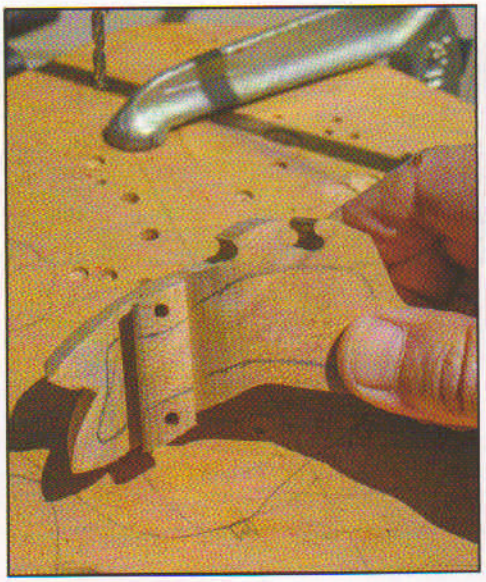
3 **Cut the locking puzzle piece.** On the top of the blank (the thicker piece), trace the outline of the puzzle piece that separates the head from the neck. Follow the line with a #5 skip-tooth blade. If using soft wood, find the dashed line on the pattern that separates the beak from the face, and transfer it to the bottom blank (the thinner piece). Make the cut. You'll glue the beak piece onto the bottom of the thicker head section later.

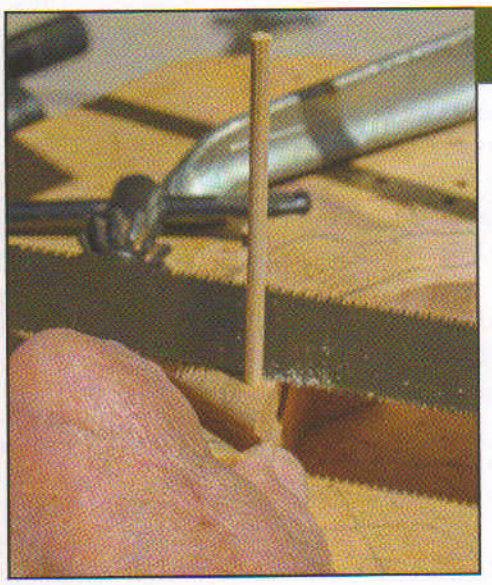


4 **Set the thicker blank on the scroll saw table with the beak facing up.** Draw the pattern on the side facing up, with the key in the pattern facing what will be the top of the box. Note that the flat side will align with the bottom of the blank. Cut carefully along the line to remove the lid from the thicker blank.



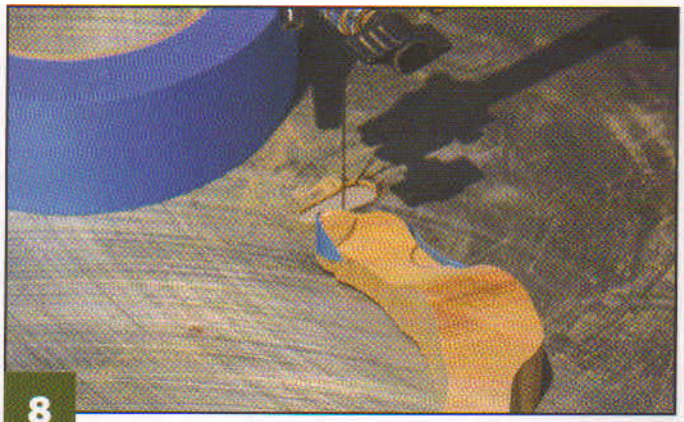
5 **Draw the line for the inner box cavity.** Do this on the top of the central body piece. Drill a 1/16" (2mm) blade-entry hole along the line.



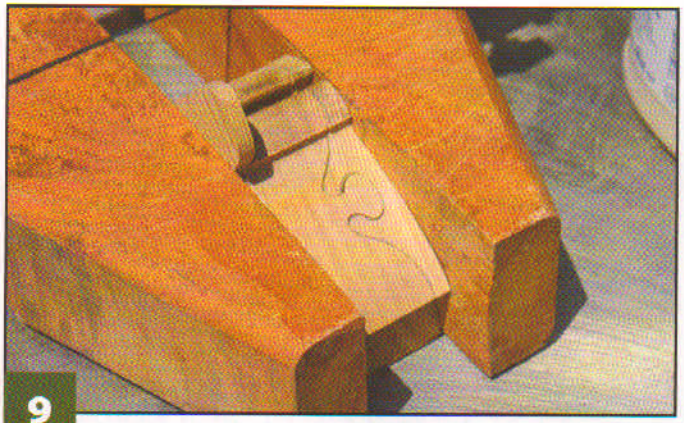


6 **Drill the dowel holes in the tail of the central body piece.** *Note: If using hardwood, omit this step.* I used a 1/8" (3mm)-dia. brad-tipped bit, centering the holes on each of the locking tabs, and drilled to a depth of 3/4" (1.9cm). Go slowly so as not to tear the wood fibers. Then cut a 1/8" (3mm)-dia. bamboo dowel to size (I used 3/4" (1.9cm) lengths) and glue a length into each hole to reinforce the locking tabs. Insert a blade into the 1/16" (2mm) blade-entry hole and cut out the center of the box.

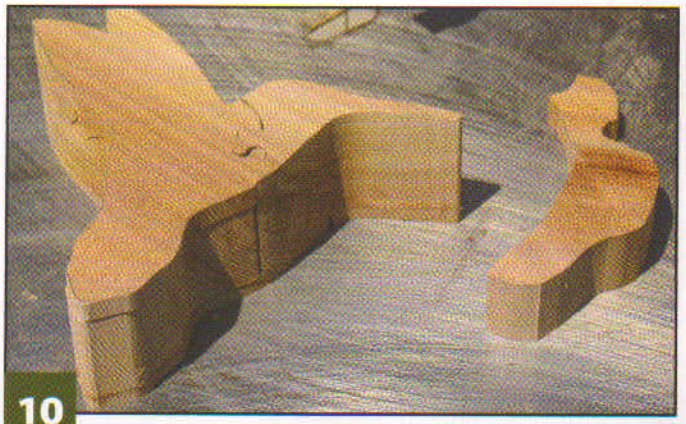
7 **Cut the inner lid.** Take the center section you just removed, flip it on its side so that the wing and tail will rest on the table, and draw a line ¼" (6mm) down from the top, all the way around the piece. Make sure to follow the contours of the body. Cut along the line to remove it. Save the scrap.



8 **Cut the lid supports.** I used the scrap produced in Step 7. Mark three half-circles on the top of the piece—one at the wing tip, one at the tail, and one at the finger grip. Cut them out and test the fit inside the hollow middle section of the box.



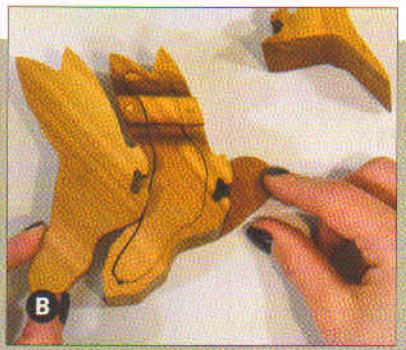
9 **Align the bottom and middle sections of the box.** Slide the top in place so you have two flat surfaces for clamping. Glue the bottom to the hollow middle and carefully clamp or secure the box in a vice, making sure the pieces sit flush. Once dry, glue in the three lid supports, and glue and clamp the thin beak to the bottom of the head piece.



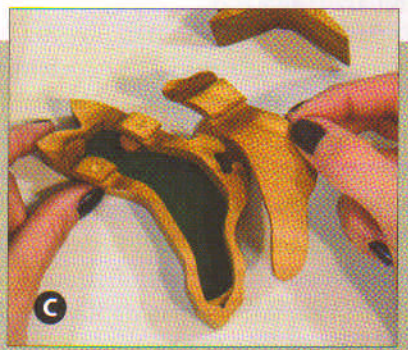
10 **Dry-assemble the box.** If any of the parts are too tight, sand these areas down until you are satisfied with the fit.

OPENING THE BOX

Gently slide the head piece up vertically, removing it from the body.



Slide the middle layer to the left, removing it from the body.



Remove the inner cavity piece, revealing a perfect place to store tiny treasures.

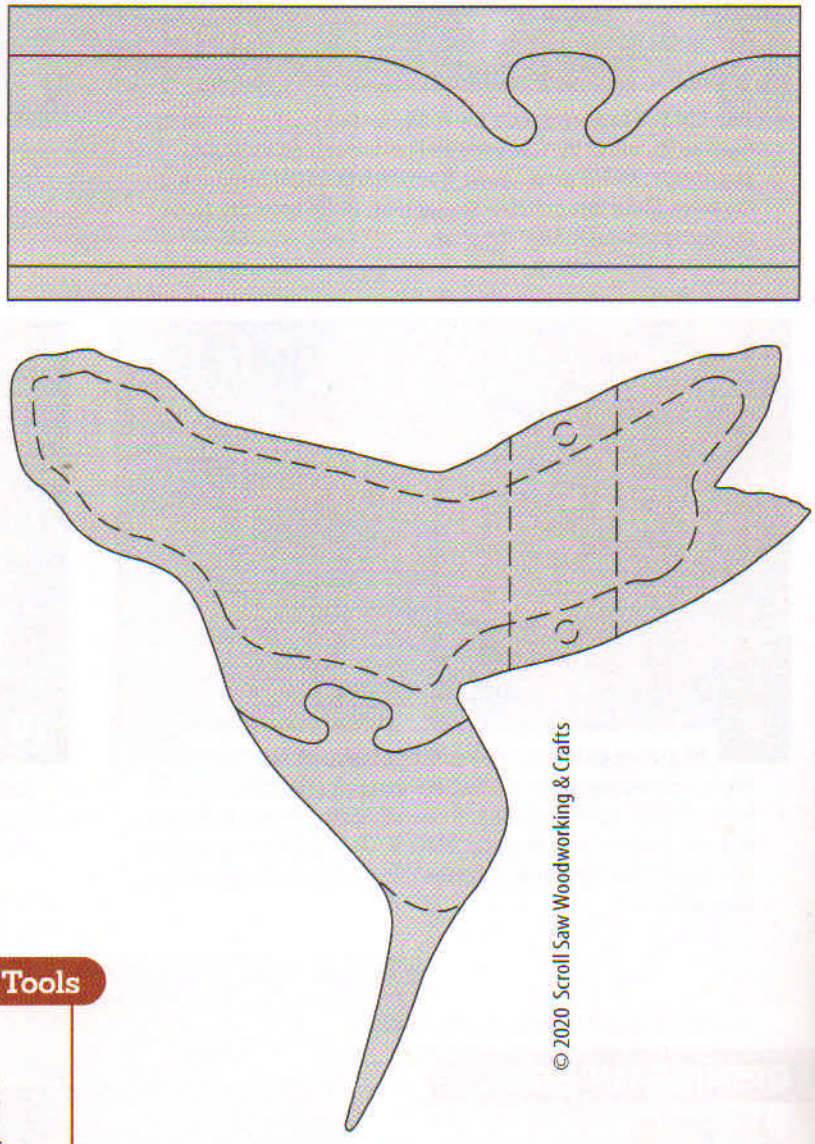
Sanding and Finishing

Note: If you used western cedar for this project, be aware that it has distinct "stripes" of hard and soft wood. Over-sanding by hand can leave you with a wavy surface.

Sand the pieces. Then hold the top and bottom of the box against a 4" (10.2cm) belt sander. Smooth the sides with an oscillating spindle sander until all the glued edges are flush, and then switch to hand-sanding, moving up progressively through the grits from 120 to 400. It's important not to rush sanding where electric sanders and soft wood are concerned. Take extra care around the locking tabs and delicate areas to avoid breaking them. Round the sharp corners slightly.

Apply finish. I used a wipe-on polyurethane followed by a coat of paste wax. You don't want the finish to be sticky, as the pieces should slide easily. To finish the inside of the box, I traced the outline of the scrap from the inside of the box onto a piece of felt. Then I cut along the line and glued the felt into the bottom of the box.

Hummingbird Puzzle Box Patterns



Materials & Tools

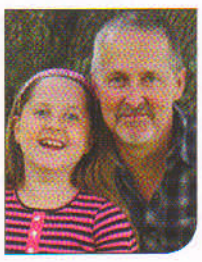
Materials

- Wood, such as western red cedar, 1½" (3.8cm) thick: 4½" (11.4cm) square
- Pencil
- Spray adhesive: repositionable (optional)
- Sandpaper: assorted grits up to 400
- Bamboo skewer, ⅛" (3mm) thick: approximately 2" (5.1cm) long
- Wood glue
- Felt: sized for box (optional)
- Paste wax
- Finish, such as clear wipe-on polyurethane

Tools

- Band saw with blades: ⅛" (3mm), ½" (13mm)
- Scroll saw with blades: #5 skip-tooth
- Clamps or vice
- Drill with bits: 1/16" (2mm), ⅛" (3mm)-dia.
- Sanders: 4" (10.2cm) belt, oscillating spindle

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.



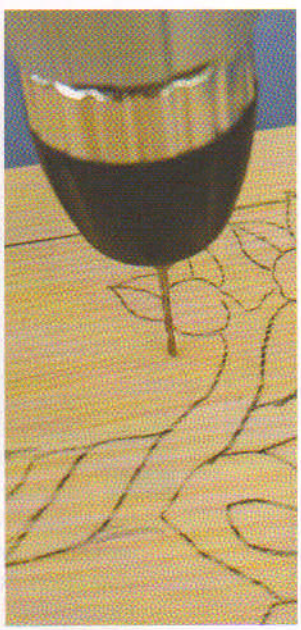
John Rhyne teaches computer-aided drafting and principles of engineering to high school students. In his free time, he enjoys making puzzle boxes with his daughter, Regan.

Stylized Fruit Tree

Try your hand at cutting and shaping in this elegant harvest project

By Anatoly Obelets

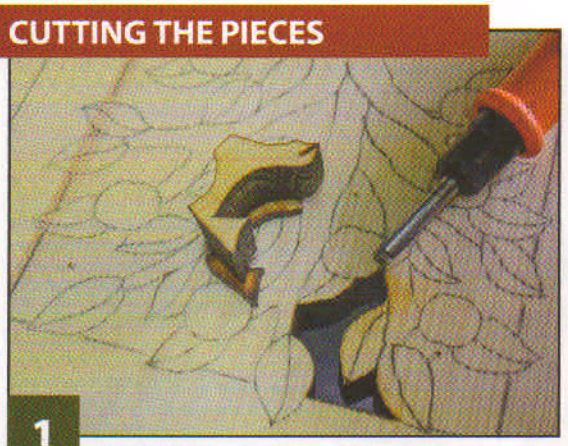
Every year during apricot season, I go out into my yard with a ladder and a big plastic bin, and pick bushels of apricots from the tree to eat and share. Sometimes the contents of my garden find their way into my intarsia work, too. Let this stylized tree decorate your interior with a reminder that fruit-picking season is just around the corner!



Getting Started

Cut the pine to size and sand it smooth with 100- and then 150-grit sandpaper. Photocopy the pattern and transfer it to the blank; I use graphite transfer paper and a pencil, but you can save time by attaching the design directly. Cover the wood with blue painter's tape and stick the pattern to the tape with spray adhesive. Cut the plywood backer. Attach the backer to the pine with clear packaging tape; you'll be removing it about halfway through the cutting process. Then drill all blade-entry holes; these will go around the perimeter of the tree and between the branches.

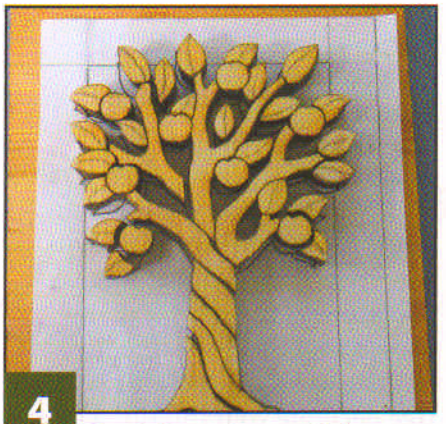
CUTTING THE PIECES



1 **Make the outside cuts, starting with those around the leaves.** Use a #7 blade or one of your choice. (I used a Pyrosegmentator (see page 49), but you can use a scroll saw.) Only make cuts in the areas with blade-entry holes; we will deal with the more intricate parts, such as the leaf details and fruit, later.

2 **Gently work through the rest of the blade-entry hole areas.** *Note: Keep in mind that you are cutting the plywood backer at the same time.* You should now see the outlines of the trunk, branches, and leaves and fruit. Make sure to maintain especially straight lines in the inner rectangle, as this will frame the finished piece. Separate the pine from the backer.

3 **Separate the tree from its frame.** Only cut along the lines that connect the leaves to the rectangle. Sand down the pine frame ¼" (6mm) using 150-grit sandpaper in a palm sander; this will make the tree stand out slightly from the frame, giving it volume and dimension. Place it on top of the completed backer, and glue and clamp the pieces together.



4 **Carefully cut the remainder of the pieces.** Cut the pieces as you would a segmentation or puzzle. Use a #2 blade or one of your choice. Only cut the outlines of the leaves; you'll add the veins later.

ADDING THE DETAILS

5 **Add dimension to the leaves.** Follow the curved lines down the center of each leaf and create a small valley along the line. Use a 5/16" (8mm) #8 gouge or a gouge of your choice. Then lightly sand the surface of each leaf smooth.

6 **Add the remaining details.** Use a flex drum sander to round the trunk components and fruit. Each twist in the tree trunk should have its own dimension separate from that of the other pieces. Add the wood burned leaf veins with a writing nib in a woodburner.

7 **Dry-assemble the scene.** Look everything over to ensure even sanding, and eliminate any remaining gaps between pieces with sandpaper.

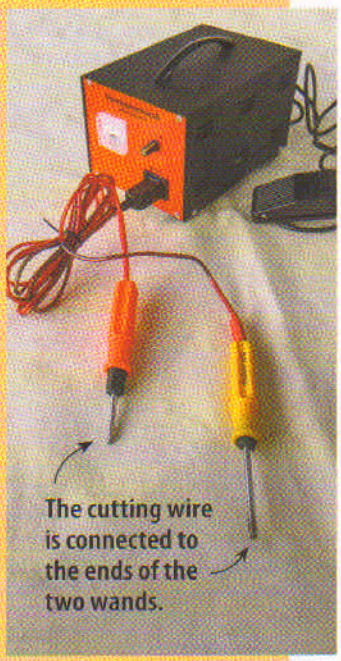
8 **Add color as desired.** The advantage of a light wood like pine is that many colors will work for this project. I used alcohol-based stains and dyes. Once the stains or dyes have dried, gently sand along the edges to create a faded, antique look.

9 **Assemble the scene.** Glue the pieces to the backer and finish with clear matte varnish. Display as desired; I added a green frame to bring out the color in the leaves and attached a hanger to the back.

The Pyrosegmentator

The Pyrosegmentator is Anatoly's tool of choice for intricate intarsia and segmentation projects. Consisting of a portable power source and wand containing a (0.3-0.4mm)-thick metal wire, this unique machine allows him to make clean, decisive cuts in wood up to 1½" (3.8cm) thick. But what's the process?

- *Drill blade-entry holes, as one would with a regular fretwork project.*
- *Pass the wire part of the first wand through the hole and attach the other end to a second wand.*
- *Turn the heat on. This will allow the wire to cut through wood with the precision of a scroll saw or laser (see photos 1, 2, and 4).*
- *Make the cuts, manipulating the wire with the wands at each end.*



The cutting wire is connected to the ends of the two wands.

Slightly larger than an average woodburner, the Pyrosegmentator comes equipped with a transformer to lower voltage and boasts a simple, straightforward design. The pyrosegmentator is not currently sold by U.S. retailers. For more information, contact Anatoly Obelets at obelets1960@gmail.com.

Materials & Tools

Materials

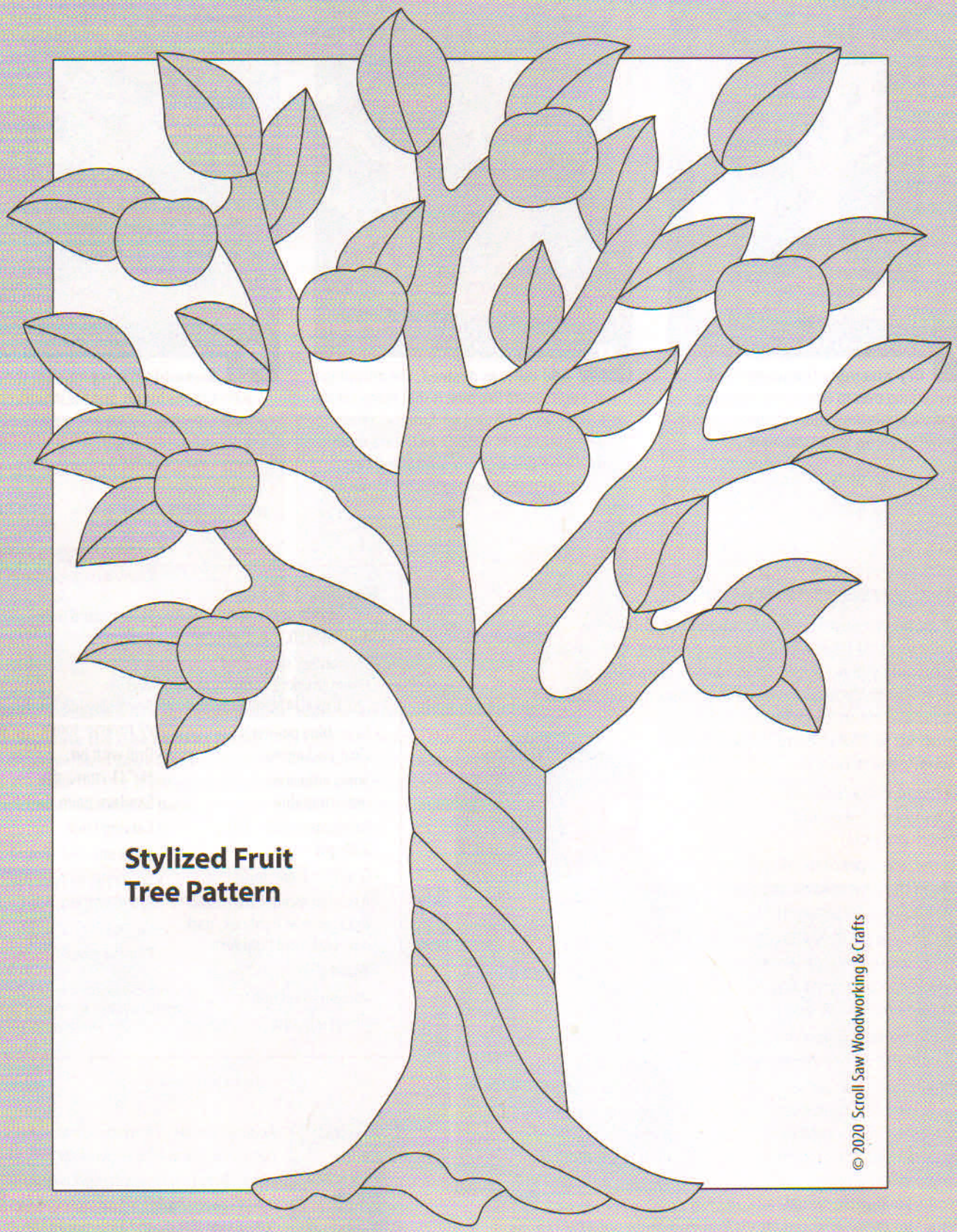
- Pine, ¾" (1.9cm) thick: 8" x 9½" (20.3cm x 24.1cm)
- Plywood or similar, ¼" (6mm) thick: 8" x 9½" (20.3cm x 24.1cm)
- Tape: blue painter's, clear packaging
- Spray adhesive: repositionable
- Sandpaper: 100-, 150-, 220-grit
- Graphite paper (optional)
- Assorted alcohol stains and dyes, such as light oak, dark oak, teak, and light fern
- Wood glue
- Varnish: clear matte
- Hanger: D-ring (optional)
- Frame, sized to fit (optional)

Tools

- Scroll saw blades: #2, #7 reverse-tooth
- Drill with bit: 3/64" (1.2mm)-dia.
- Sanders: palm, flex drum
- Carving knife
- #8 gouge: 5/16" (8mm)
- Woodburner with nib: round writing
- Clamps
- Paintbrushes

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Anatoly Obelets of Kherson, Ukraine, has been engaged in intarsia work for over 15 years. One of his favorite subjects to portray is sunflowers; his friends jokingly call him the "Ukrainian Van Gogh." Find more of Anatoly's work at Facebook.com/anatoly.obelets.

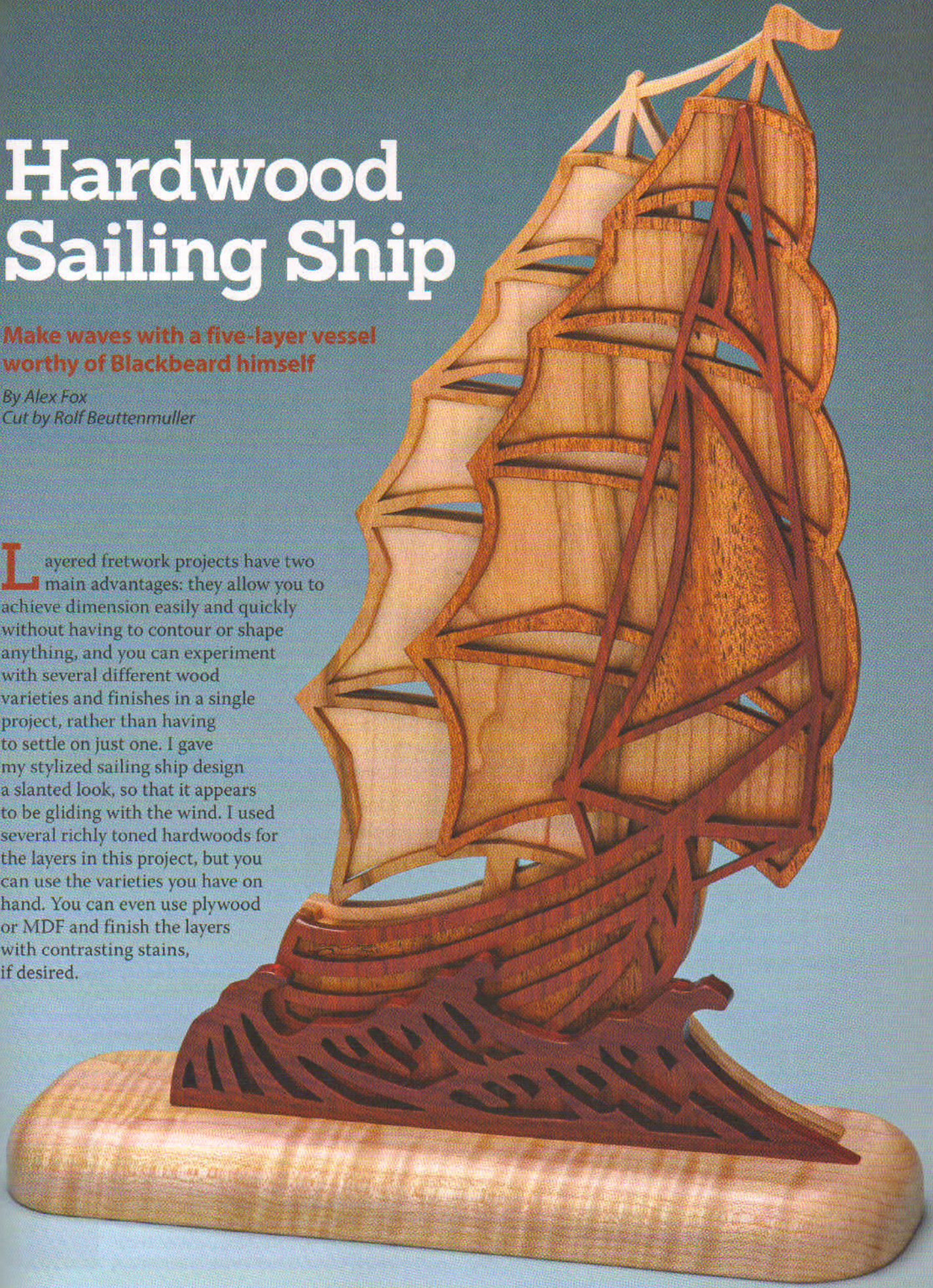


Stylized Fruit Tree Pattern

Hardwood Sailing Ship

Make waves with a five-layer vessel worthy of Blackbeard himself

By Alex Fox
Cut by Rolf Beuttenmuller



Layered fretwork projects have two main advantages: they allow you to achieve dimension easily and quickly without having to contour or shape anything, and you can experiment with several different wood varieties and finishes in a single project, rather than having to settle on just one. I gave my stylized sailing ship design a slanted look, so that it appears to be gliding with the wind. I used several richly toned hardwoods for the layers in this project, but you can use the varieties you have on hand. You can even use plywood or MDF and finish the layers with contrasting stains, if desired.

Prepping and Cutting

Pre-sand the blanks with 150-grit sandpaper, working up progressively through the grits until you reach 320. Remove any excess sawdust with a clean cotton cloth. Cover the surfaces of the wood pieces with clear removable contact paper, and then attach the patterns to the paper with spray adhesive. Drill the blade-entry holes.

Cut the layers; I used a #2/0 reverse-tooth blade for the five layers and a #7 for the base. For the ship and wave layers, cut the frets before you move on to the perimeters. Gently remove the patterns and hand-sand the finished pieces with 320-grit sandpaper to remove any fuzzies and soften the edges. Cut a slot in the base to match the tabs in layers 2, 3, and 4; I used a ¾" (19mm) flush trim bit in a router. *Note: I did not include tabs on layers 1 and 5, primarily because these layers will hide imperfections created while cutting the slot.* Soften the edges of the base using a ¾" (19mm) roundover bit.

Sanding and Finishing

Give the base a final sand and buff to remove excess dust. Glue and clamp the layers together, wiping off all squeeze-out before it dries. Once dry, glue the tabs in layers 2 through 4 into the slot. Finish as desired; I used a clear satin lacquer.

Materials & Tools

Materials

- Curly maple, ⅞" (2.2cm) thick: base, 3" x 9" (7.6cm x 22.9cm)
- Maple, ¼" (6mm) thick: layer 1, 6¾" x 11¼" (17.1cm x 28.6cm)
- Cherry, ⅛" (3mm) thick: layer 2, 6¾" x 11¼" (17.1cm x 28.6cm)
- Spanish cedar, ⅛" (3mm) thick: layer 3, 6¾" x 10½" (17.1cm x 26.7cm)
- Redheart, ⅛" (3mm) thick: layer 4, 6¾" x 10½" (17.1cm x 26.7cm)
- Bloodwood, ¼" (6mm) thick: layer 5, 7" x 10¾" (17.8cm x 27.3cm)
- Contact paper: clear removable
- Spray adhesive
- Sandpaper: assorted grits up to 320
- Paper towels and/or clean cotton cloths
- Wood glue
- Finish, such as Deft satin lacquer

Tools

- Scroll saw with blades: #2/0 reverse-tooth (for layers), #7 reverse-tooth (for base)
- Drill with bits: small
- Router with bits: ¾" (19mm) flush trim, ¾" (19mm) roundover
- Clamps

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Patterns for the ***HARDWOOD SAILING SHIP*** are in the pullout section.

Alex Fox, based in Ukraine, has been working as a 3D designer for three years. He designs all kinds of patterns, including bowls, fretwork, and compound-cut pieces, but multilayered projects are his favorites. Find Alex at YouTube under Alex Fox or on Etsy at AlexFoxUA.

Rolf Beuttenmuller started scrolling in 2004 after his wife, June, bought him a scroll saw for his birthday. He joined a local club and enjoys new and challenging projects. His motto is, "I don't know that I can't, therefore I can." Rolf retired from Brookhaven National Lab after 34 years of designing and building special devices for high energy and photon science research. He lives in Bellport, N.Y.

Fall Foliage

INTARSIA SIGN

Richly hued hardwoods make for a leaf pile that looks fun enough to jump in

By Judy Gale Roberts

This little project is a great way to use up some of those smaller scraps of wood you just can't throw away. Believe me, I generate my fair share; whatever is too small goes into the campfire wood box, which makes my husband happy. (However, I have to admit, I've rescued a few pieces from the fire, wondering how they ended up there.)

I have been experimenting with different types of wood, too, so not all of this project was made from scraps. Customers often ask me about other wood choices beside Western red cedar, which prompted me to try a variety of species. As I searched online for options, I checked each one's Janka hardness. (On the Janka scale, woods with a higher rating are harder than those with a lower rating.)

My goal was to find wood with a rating under or close to 1,500 lbf. Western red cedar, at 350 lbf, fit the bill, as did walnut at 1,010 lbf. *Note: If you're new to intarsia, I recommend starting with something a little softer, such as walnut.*

Getting Started

Prepare the patterns. The most accurate way to cut the parts for any intarsia project is to make multiple copies of the pattern and glue the pattern pieces to the different shades of wood. Make at least six copies of this pattern; you will be cutting up the pattern parts and gluing them to the face of the wood. Keep one pattern as your master copy for reference. Cut up each piece of the pattern that represents a different wood color or grain direction. *Note: When I cut the patterns into pieces, I leave between ⅛" (3mm) and ¼" (6mm) beyond the pattern line. Leaving enough of the pattern gives you a "lead-in" line to get your blade on track before you start cutting the actual piece.*

Attach the patterns. For easy pattern application, I recommend a sticker-maker machine used in the scrap booking industry (Xyron® Creative Station 9"). You run the patterns through the machine and it applies adhesive to the backside of the pattern. This is more expensive but keeps patterns securely in place and is great for production work. Patterns peel off easily without leaving residue on the wood. You could also use a repositionable glue stick. *Note: You will need a second mouse tail to fill that portion of the leaf during sanding, so prepare two.*

Before You Cut

Control and consistency are the cornerstones of accurate sawing, and control comes from cutting at a comfortable speed. To find the optimal speed, you'll need to experiment a little bit. Practice using the same wood and blade that you plan on using for the final project, trying different speeds until you find the one that gives you the best control. I usually run about 85-90% of the speed range on my variable-speed saw. Scrollers should practice keeping the blade in the center of the line. A foot switch and a magnifier with a light are very helpful if you're sawing for accuracy.

Before you start cutting each part, take a few minutes to come up with an overall plan. Whenever possible, plan your cuts so the last cut will "drop" off the larger piece of wood. You don't want to end up with a very small part that's difficult to hold onto.

It is important to check your cuts frequently with a square. Change blades often, do not push too hard, and let the blade do the work. Pushing will create out-of-square cuts that don't fit together tightly; it will also dull your blade faster.

Cutting the Mouse, Leaves, and Acorns

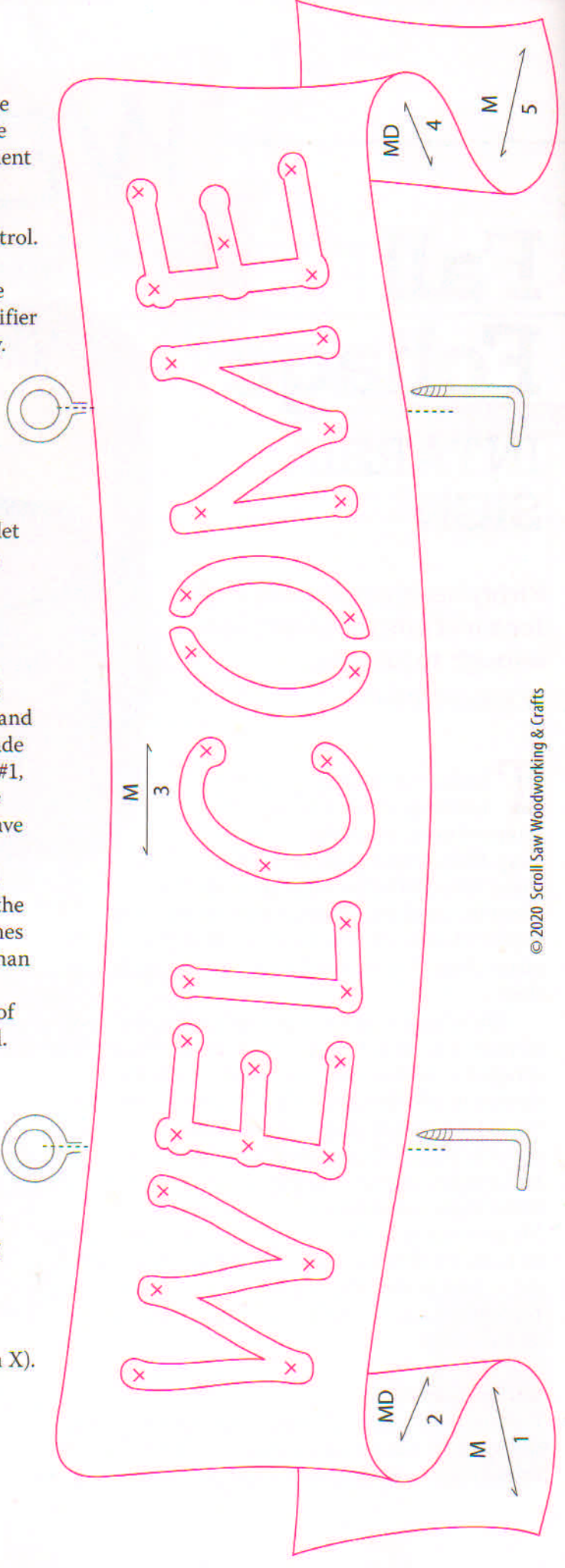
Drill the hole for the mouse eye. Drill a small hole in the eye piece for the eye highlight. Then cut the leaf, acorn, and mouse pieces; I used either a #3 or a #5 reverse-tooth blade on the perimeters and a smaller blade, such as a #2/0 or #1, to separate the leaf sections. *Note: Using a smaller blade ensures that you lose less wood in the cutting process.* Leave the patterns on the wood until all the parts are cut out. If the parts do not fit, many times you will be able to tell where the pattern line is heavier. Trim these areas with the scroll saw blade, so the shapes are as close to the final lines as possible. Trying to sand the parts down to fit rather than cutting them accurately at the start can get them out of square and cause gaps. Check the fit, number the backs of the parts, and remove the patterns once you are satisfied.

Cutting the Leaf Backing

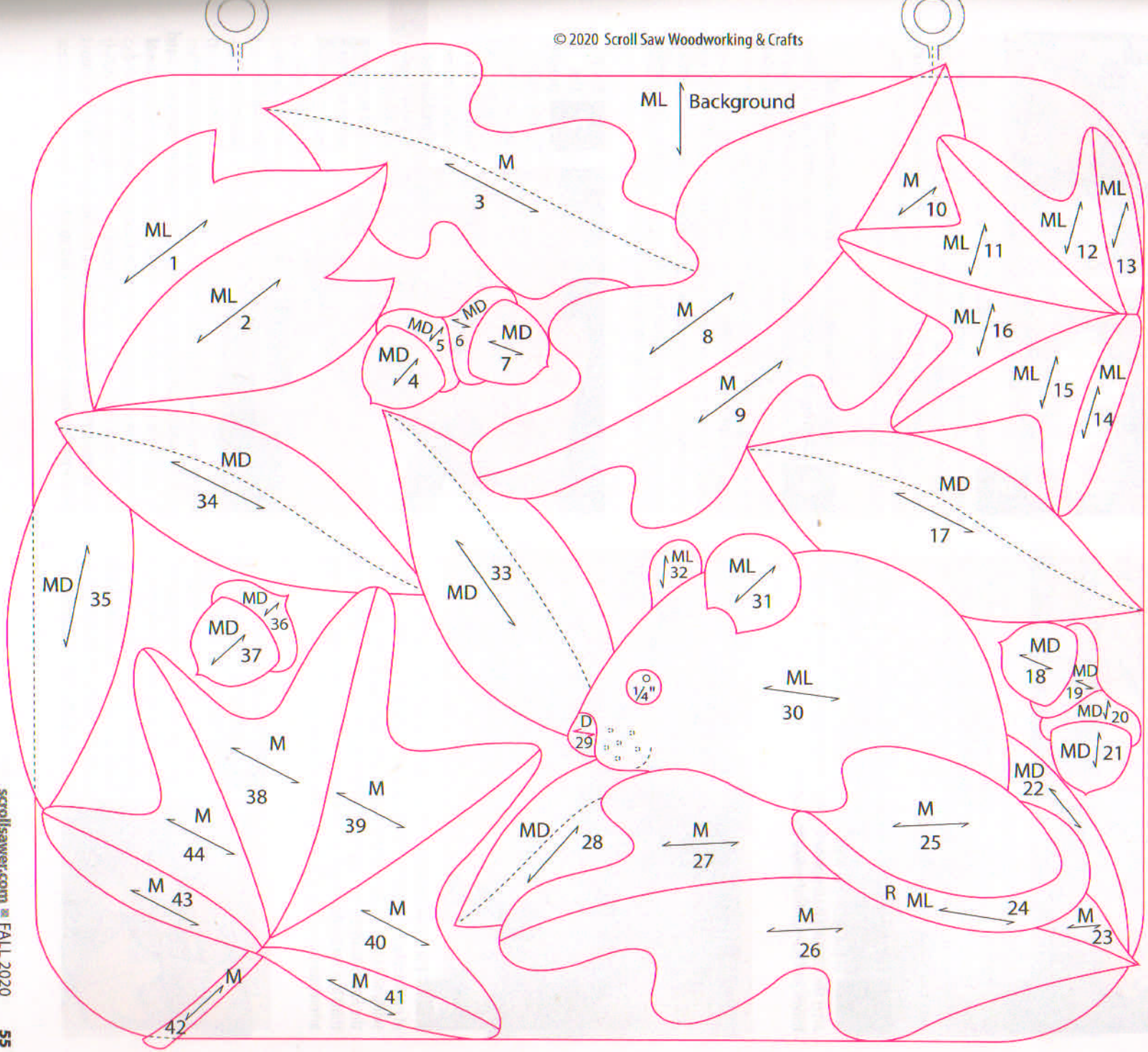
Apply the pattern to the backing and saw along the dashed lines where the leaves overlap the edge. Leave the pattern on the backing after it's cut; I used an X-Acto® knife to cut away the exposed areas around the pattern. *Note: The pattern is a great way to mask off certain areas when applying the finish; the glue will bond better to an unfinished surface.*

Cutting the Welcome Sign

Drill the blade-entry holes in the letters (marked with an X). Then cut them on a scroll saw with a #1 or #3 blade. You will have to thread the blade into each individual hole to cut the letters.



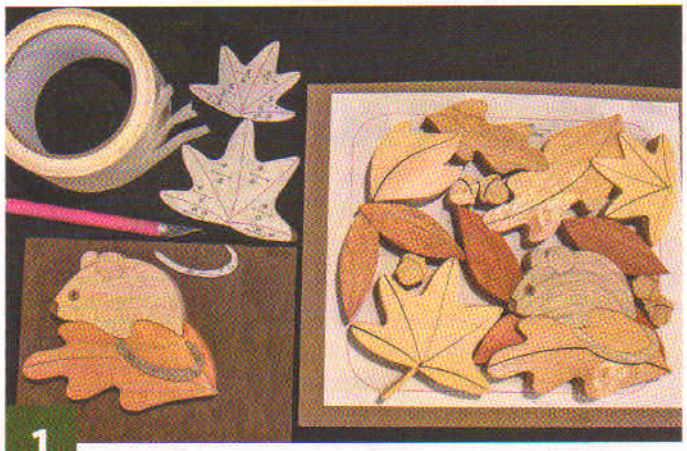
Fall Foliage Intarsia Sign Patterns



Legend

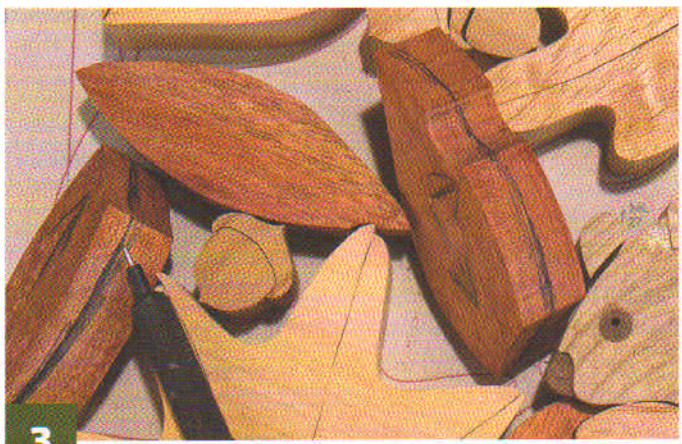
- ⟷ Grain Direction
- D..... Dark Shade of Wood
- MD..... Medium Dark Shade of Wood
- M..... Medium Shade or Red Shade of Wood
- ML..... Medium Light Shade of Wood
- R..... Raise this Section ⅛" (3mm)
- ○..... ¼" (6mm) Walnut Dowels for the Mouse Eye

ROUGH-SHAPING THE PARTS



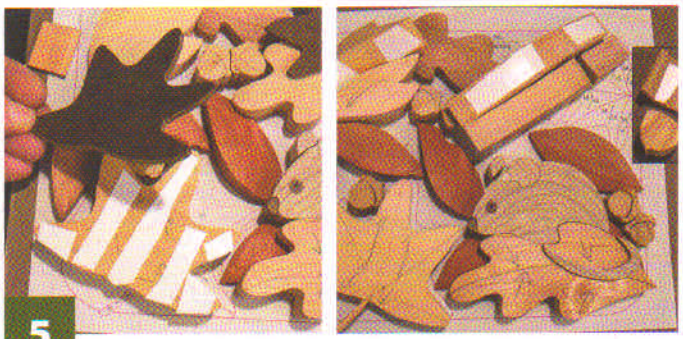
1 **Make the raising shim.** This project has just one, cut from a totally flat piece of ⅛" (3mm) tempered hardboard (tempered on both sides), to raise the tail. Cut out the section marked with an "R" on the pattern and attach it to the hardboard using your preferred method. Cut the raising shim on a scroll saw.

2 **Cut the sanding shims.** These are pieces of material (in my case, ⅛" (3mm) tempered hardboard) that I cut to the rough size of the sections I want to sand together as a unit. I discard them after the sanding is complete. I made sanding shims for the two maple leaves and the oak leaf below the mouse.



3 **Plan the contours.** I used a pencil to mark the final thickness of each surface element (i.e. the leaves, acorns, and mouse parts) on the sides, so I know my limit when sanding. Then draw arrows on the tops of the leaves to mark the rough contours the tops will have; for example, the third leaf in the above photo, #33, slopes down in two directions, so draw arrows facing out toward the top and side to reflect that.

4 **Roughly shape the narrow, red and brown leaves.** The goal is to make some parts look like they overlap others; this will add interest and a sense of depth. For the following parts, use a soft flex drum sander, removing most of the material with an 80-grit sleeve and then moving up through the grits to 220. Taper leaf #35 down to half its thickness and slope it down so it appears to tuck under leaf #34. Use the same technique for leaves #33 and #17, tapering them down as thin as possible (around ¼" (6mm)) where they join with the mouse. Then sand leaf #3 so it appears to tuck under parts #1, #2, and #8. As you sand each leaf, mark the thickness on the adjoining parts for reference.

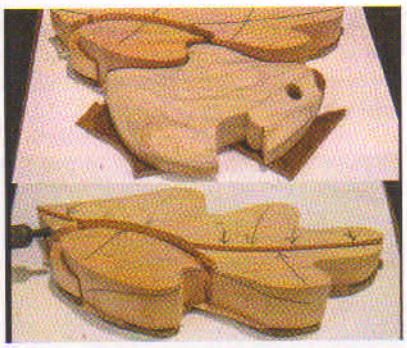


5 **Remove excess sawdust from the pieces.** I used an air compressor. Attach the sanding shims to the mouse, its oak leaf seat (including the scrap mouse tail), and the two maple leaves. I used double-sided, light-traffic carpet tape to affix them to the bottoms of the pieces. Then edge-tape the adjacent sections on pieces without sanding shims, like the acorns and the remaining two-part leaves.

6 **Sand the remaining leaves (except the mouse's leaf), staying above the pen lines.** I sanded parts #1 and #2 thinner at the base and left them at full thickness where the leaf overlaps with #3. Sand parts #8, #9, and #10 so the leaf tucks under the maple leaf in the top right corner. *Note: If any of the parts with edge tape come loose, simply make more sanding shims and attach the pieces.* Sand the two maple leaves; I tapered the upper right leaf down at the base and left it thicker where it overlaps the adjacent oak leaf, parts #8 through #10. Taper the lower maple leaf down slightly toward the stem, leaving it a little thicker in the areas where it overlaps with the thin, red leaves.

7 **Shape the mouse.** For the smaller ear, I cut a narrow slice of tempered hardboard for a handle and then affixed the ear to the end with the double-sided tape. I added an extra locking piece of hardboard around the ear for stability during sanding. Shape the background (smaller) ear first and mark where it joins the mouse. Edge-tape the mouse face and nose and shape them together, removing around ⅛" (3mm) from the surface of the mouse. Round the back, taking note of the pencil lines on adjacent pieces. I sanded a slight angle from behind the ear down to the nose, rounding the edge of the nose down almost to the thickness lines of the background ear. Mark the thickness of the mouse on the side of the oak leaf it's sitting on.

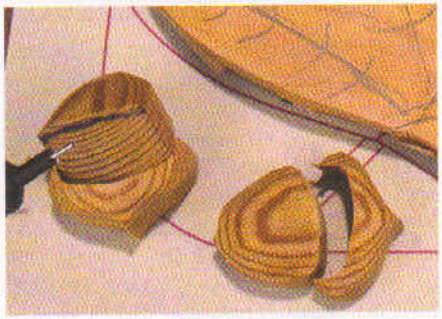
8 **Sand the mouse's oak leaf.** Make sure to stay above the pencil lines. Taper the leaf down toward the bottom, take the two sections apart, and then sand them individually. I sanded the upper part first, bringing it down about an ⅛" (3mm) toward the center vein. Put the piece back in place and mark the thickness on the lower part. Then taper the lower part toward the vein. Redraw the lines on the leaf.

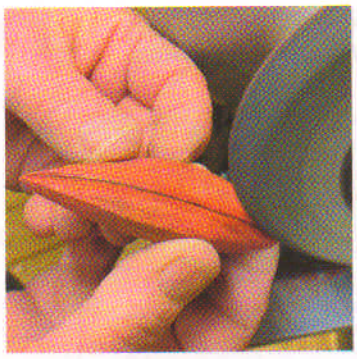


9 **Assess the tail.** Given the angles of the oak leaf, I didn't end up needing the raising shim for the tail, as it stands out enough. However, it's useful to have on hand in case you sand off too much of the tail. Mark the thickness of the leaf on the side of the tail. The tip of the tail will be the thickest part; the base, where it tucks behind the leaf, will be the thinnest. Round the tail, starting with the surface and moving out toward the edges. Then sand the acorns with the cap and nut portions taped together. Round the sides and cap of each one, varying the heights of the acorns slightly throughout.

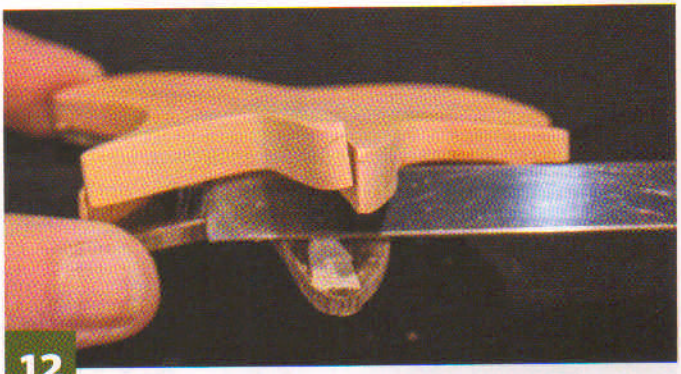
ADDING THE DETAILS

10 **Refine the acorns.** Carefully separate the cap sections from the nut sections. Lower the nut sections about 1/16" (2mm). Put the two parts back together and mark the thickness of the nut along the edge of the cap. Sand a bevel along the edge of the cap, so it curves down toward the body of the acorn. Mark the areas you plan to refine on the mouse; I rounded the cheek and added a hint of a neck. Round the individual sections of the maple leaves to create shallow dips or veins.





11 **Refine the two-piece leaves.** Transfer the dashed lines from the pattern onto the leaves to create a vein down the center. I used a Wonder Wheel to carve and burnish a line down the center of the red leaves and the upper oak leaf, part #3. The wheel burns more on harder woods like bloodwood, but I hand-sanded the burns away later.



12 **Remove the sanding shims.** I used a thin putty knife to carefully pry the pieces off, sliding the blade fully under each piece before lifting to avoid breakage.

13 **Sand the eye.** Slide the dowel in place, just slightly above the surface of the face, and mark the thickness of the wood around it. Sand the dowel at the same angle as the face, and then slightly round the sides to give it a light dome shape. Add the highlight. You can use any light wood, although I prefer holly because it retains its color well. Cut your wood of choice until it is about the size of a pencil, ¼" (6mm) square and 8" (20.3cm) long. Sharpen one end with a pencil sharpener. Put the sharpened end of the holly in place and trim off the excess. Sand until the highlight is flush with the rest of the eye.

14 **Burn the whisker spots.** I used an inexpensive model with a round brass tip, but you can use any variable-temperature woodburner and writing nib you have on hand. *Note: Practice on the back of the piece to ensure you're getting appropriately sized dots.*

SHAPING THE WELCOME SIGN

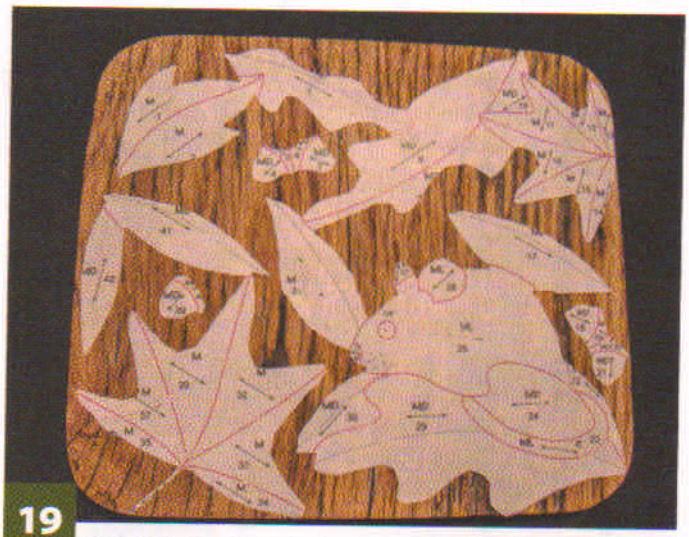
15 **Contour the outer welcome sign pieces.** I sanded the two background parts—#1 and #5—first. Sand them down to half their original thickness, around ⅜" (1cm) thick. Taper the pieces in toward the sign, leaving their outside edges thicker. Sand parts #2 and #4 down to around ½" (1.3cm) thick, and then taper them down toward the outside edge.

16 **Sand the main section, rounding both ends.** Take care not to sand below the thickness of the exterior parts. Refine all five sign pieces, giving them movement to emphasize the ribbonlike quality of the piece. Sand a dip in the outermost pieces, so the ribbon appears to curl up at the outside edges.

17 **Dry-assemble the project.** Inspect the pieces; if some parts have visible facets or could be rounded a little more, I start to clean them up with a 120-grit sleeve, sanding all the parts with the grain wherever possible. Then move to the 180-grit and then the 220-grit sleeve. Hand-sand each piece with 220-grit sandpaper. Check for cross-grain scratches and any noticeable pencil marks. Remove any excess dust with an air compressor, keeping an eye out for more scratches; sometimes the dust gets into a scratch and you cannot see it until the dust is gone.

FINISHING

18 **Finish the pieces.** I used three coats of polyurethane gel. Apply the gel with a 1" (2.5cm) disposable foam brush. The first coat should be heavy; let the wood soak up what it needs to fill the grain. Coat the sides and surface of each part, being careful not to get much on the backs. Wait about a minute, and then wipe the gel off with a clean paper towel; as it gets saturated, use a second towel to buff it completely dry. Let the finish dry overnight. Apply the second and third coats six to eight hours apart, covering only exposed surfaces.



19 **Finish the backing.** Apply paper copies of the pattern pieces to the exact areas where those pieces will go; this will act as a mask for the backing, as the mouse, leaves, and acorns will stick better to an unfinished surface—I used repositionable adhesive. Then apply polyurethane gel to the surface and let dry. Remove the patterns.

20 **Assemble the parts on the backing.** I rarely edge-glue any parts, as everything is glued to a backing. However, for this project, I edge-glued the caps onto the acorns, the nose to the mouse, and the maple leaf pieces to each other. This will make the smaller pieces easier to grab. *Note: If you wish to sign your work, now is the time, as it will be easier to do before you affix the pieces to the backing. I used a permanent India ink pen.* Glue the parts onto the backing. I use tacky glue, such as Aleene's®, as it is flexible, allowing me to adjust the parts during the 10 to 15 minutes before the glue sets up. Keep in mind that a little glue goes a long way. Just use a few dots on the back of each part. If the parts keep sliding around, you can use a few pieces of double-sided tape to secure them. I glued the larger part, #26, first, and then let the glue set up before gluing the rest of the pieces. Anchoring this piece will help keep the mouse together while you glue the rest.

Materials & Tools

Materials

- 6 copies of the pattern
- Tempered hardboard, ⅛" (3mm) thick; welcome sign backing, 3½" x 10½" (8.9cm x 26.7cm)
- Tempered hardboard, ⅛" (3mm) thick: sanding and raising shims, sized for pieces
- Medium wood, such as barn wood or spalted maple, ½" (1.3cm) thick: leaf backing, 7" x 8" (17.8cm x 20.3cm)
- Medium wood, such as Western red cedar, ¾" (1.9cm) thick: welcome sign, 4" x 13" (10.2cm x 33cm)
- Medium dark wood, such as Western red cedar, ¾" (1.9cm) thick: welcome sign accents, 2" x 3" (5.1cm x 7.6cm)
- Medium light wood, such as spalted hackberry, ¾" (1.9cm) thick: mouse, 4" x 5" (10.2cm x 12.7cm)
- Medium wood, such as peroba rosa, ¾" (1.9cm) thick: orange leaves, 5" x 8" (12.7cm x 20.3cm)
- Medium dark wood, such as redheart or bloodwood, ¾" (1.9cm) thick: red leaves, 4" x 8" (10.2cm x 20.3cm)
- Medium wood, such as Western red cedar, ¾" (1.9cm) thick: acorns, 3" (7.6cm) square
- Dark wood, such as Peruvian walnut, ¾" (1.9cm) thick: nose and eye, 2" (5.1cm) square
- Walnut dowel, ¼" (6mm)-dia.: mouse eye, 2" (5.1cm) long
- Spray adhesive, glue stick, or a Xyron® Sticker Maker
- Pencil
- Glue: Aleene's Tacky®
- Carpet tape: double-sided light-traffic
- Sandpaper: assorted grits
- Sanding sleeves: 80- to 220-grit
- Finish, such as polyurethane gel
- Paper towels
- Screw eyes: 4 each
- L-shaped square hooks
- Ribbon or string (for hanging)

Tools

- Drill with bit: 1/16" (2mm)-dia.
- Scroll saw with blades: #2/0 or #1, and #3 or #5 reverse-tooth
- Sanders: flex drum, handheld
- Wonder Wheel, ½" (1.3cm) wide: 6" (15.2cm)-dia.
- Square
- Pencil sharpener
- Knives: X-Acto®, putty
- Woodburner with nib: writing
- Brush: 1" (25mm) foam
- Air compressor

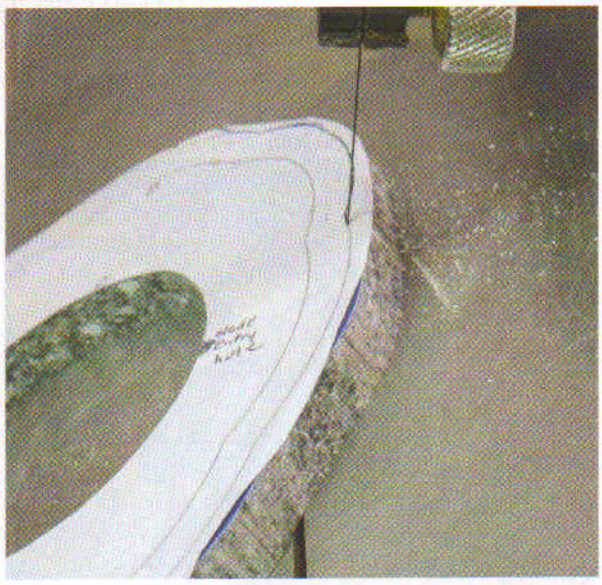
The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Displaying

Add the hardware. Attach screw eyes to the top of the leaf plaque and to the top of the "welcome" ribbon, using the pattern as a guide for placement. I added wire L-hooks, or square hooks, to the bottom of the "welcome" portion so I can swap it out for different seasonal plaques year-round.

Cut and shape just the mouse and leaf portions to make a charming ornament.

Judy Gale Roberts, born in Houston, Texas, 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., contact Judy at 800-316-9010, or visit intarsia.com. Judy's numerous intarsia books are available at foxchapelpublishing.com.



Working with Corian®

Test your skills on a durable, scrollable material that isn't wood!

By Carole Rothman

Corian®, a solid, non-porous material used for countertops and sinks, is made from acrylic polymer and natural minerals. Available in three thicknesses—¼" (6mm), ½" (12mm), and ¾" (19mm)—Corian can be worked with standard woodworking tools, including the scroll saw, but some adjustment of techniques and procedures is required. These are spelled out in the following sections and will help ensure successful outcomes. Once you've learned the basics, turn to page 62 for two different types of projects made from Corian.

Drilling

Corian drills easily; use a solid backing for a clean exit hole. I recommend drilling oversized entry holes to keep the blade from catching and twisting as you feed it through. Once distorted, the blade will not cut accurately.

Cutting

- Corian fuses if too much heat is generated. To prevent this, apply blue painter's tape to the work piece; use a skip-tooth blade like Flying Dutchman Polar #5; and reduce the cutting speed to 60%-80%.
- For smooth cuts and accurate curves, reduce the feed rate and change blades often.
- Vacuum frequently. The fine white dust clings to tools and other surfaces and can cause blade slippage.
- Practice on scraps to get the feel of the material.

Gluing

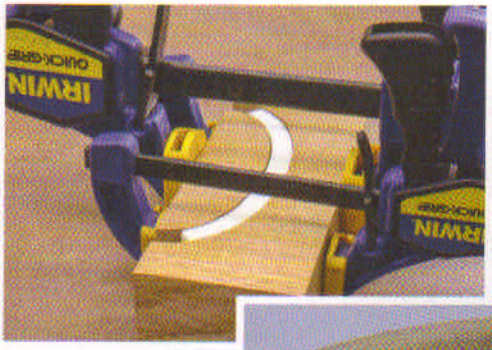
- Cyanoacrylate (CA) adhesive is a good choice. It is water-resistant and considered nontoxic when fully cured. Use a type with thick viscosity for easier application.
- Gluing surfaces must be clean and dry. Roughen both surfaces slightly and remove any dust before application.
- Spread the adhesive evenly over one gluing surface. If stacking slabs or rings to create the illusion of one solid piece, extend the adhesive completely to the outer edges to prevent white "void lines." However, when attaching a ring to a bowl bottom, keep the adhesive ⅛" (3mm) from the inner edge of the ring to prevent squeeze-out on the surface of the bottom piece.
- Use firm, downward pressure to set the bond; excessive force can result in starving the joint. Remove squeeze-out with a dry paper towel and sand away residue with a sanding sponge once the adhesive has fully cured.
- Use clear, waterproof epoxy instead of cyanoacrylate (CA) adhesive for projects like soap dishes. Apply as above, using the edge of a razor blade to scrape away squeeze-out. It's important that the project is completely level while the epoxy sets, or pieces can slide out of position.

Sanding

- Corian dust is nontoxic but can be irritating; as with any scrolling project, wear a mask and use appropriate dust control.
- Vacuum sanding dust from project surfaces before changing grits.
- Use a belt sander to smooth edges and create bevels, and a pneumatic drum to sand bevels into smooth curves.
- Contour frets and soften outer edges with a 180- or 240-grit Mac Mop.
- For a soft sheen, sand the surface to 240 or 320, and then buff with a 320-grit sanding mop. For a glossier appearance, sand progressively through the grits to 1000 with a soft flexible pad sander.

Heat Resistance

To test Corian's suitability for trivets, I placed a metal pan from a 375° oven on a gray piece of Corian for 20 minutes. No discoloration occurred. Had any appeared, it could have easily been removed by sanding.



Shape heated Corian with a simple wooden mold.

I created a graceful thermoformed base for this Corian dish, and used a pneumatic drum to soften the ends.

Thermoforming

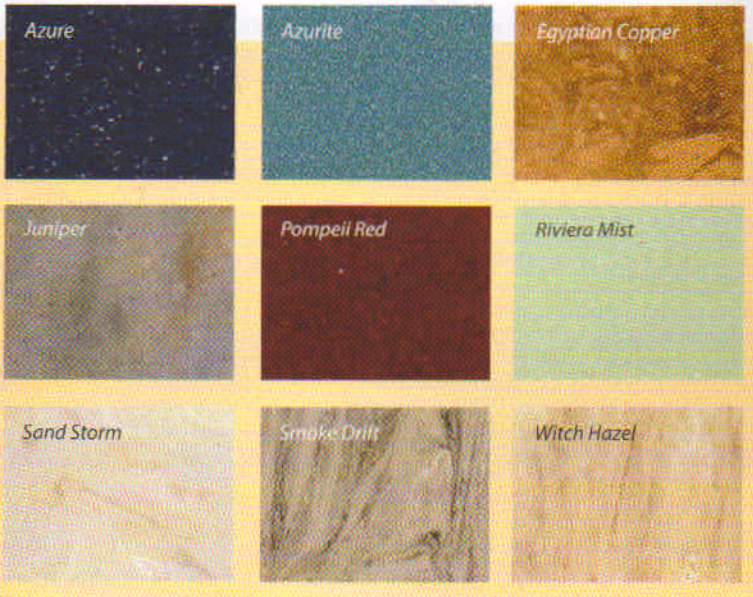
Corian becomes flexible when heated to a temperature between 160°C and 165°C (320°F-329°F). Molds set and hold the contour while it cools. Simple thermoforming can be done at home in a 325° oven. Place a strip on a baking sheet and heat until pliable, about 35 minutes for ½" (12mm) stock. Remove the strip with oven mitts. Clamp it in a shop-made mold until cool, making sure it doesn't twist or distort as you tighten the clamps.

The Colors of Corian

Since its creation in 1967 by DuPont chemist, Donald Slocum, Corian has been widely used as an alternative material for many home, kitchen, and bath projects. Originally conceived in a single color, Corian is now manufactured in over 100 options.

In 2013, DuPont introduced enhancement technology creating an even wider range of colors more resistant to scratches and cuts than the earlier generation of Corian.

Here are a few colors available on the market today:



Projects in Corian®

Put this versatile polymer to the test with simple trivet, coaster, and dish designs

By Carole Rothman

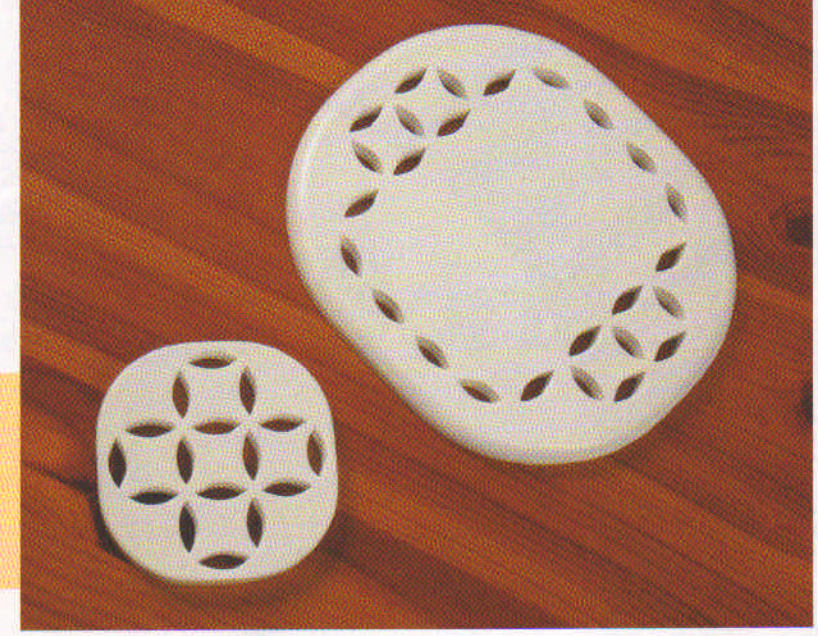
Looking for an eye-catching project that's different, yet easy to make? If so, consider a design made from Corian®. An acrylic polymer, it cuts and shapes like wood, but looks like marble or granite when contoured and buffed. While suitably sized pieces can be purchased, you may be able to obtain them as discards from Corian fabricators, at little-to-no cost.

I've created two different projects to showcase the versatility of this material. One is a trivet and coaster set, embellished by contoured fretwork; the other is an eight-petal multipurpose dish that floats above a simple base. I provided specific procedures with each project; general instructions for working with Corian are included on p. 60.

This attractive eight-petal dish was assembled from three separate pieces of Corian.

Getting Started: Trivet and Coaster

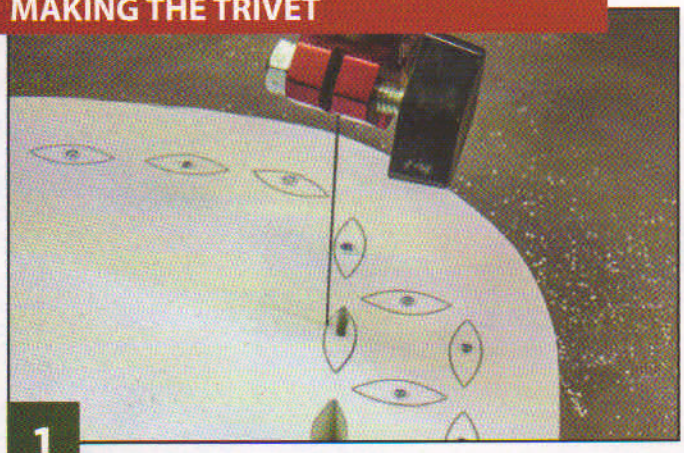
Make the blank. Cover the piece of Corian with blue painter's tape and attach the pattern to the tape with spray adhesive. Cut the pattern perimeter on a scroll saw, cutting just outside the line; sand to the line with a vertical belt sander.



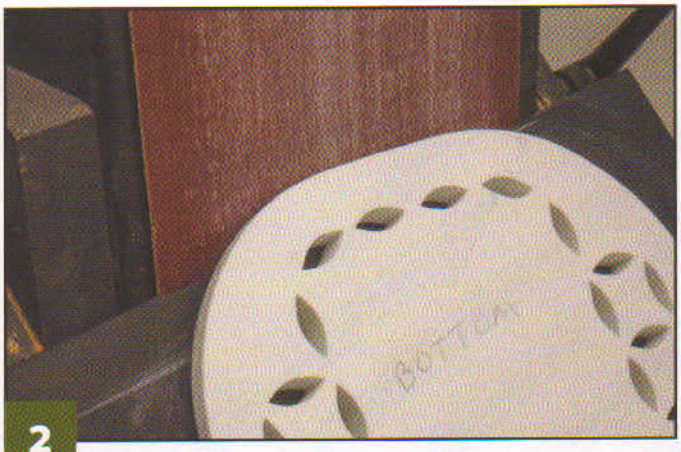
Making the Coaster

Follow the instructions for making the trivet as below, but create a smaller bevel or curve for the perimeter.

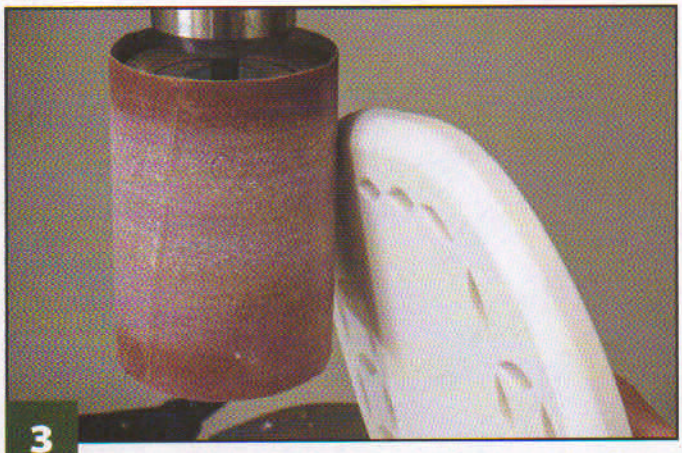
MAKING THE TRIVET



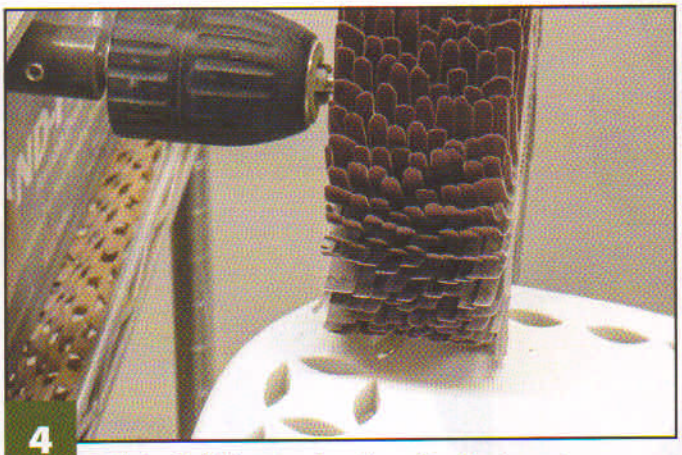
1 **Cut the frets.** For each fret, drill a 3⁄16" (5mm)-dia. blade entry hole, insert the blade, and cut down one side to the point. Back up to the entry hole and cut down the other side to free the small cutout. Then cut down each side to the opposite point. Remove the tape and pattern and use a needle file or sanding stick to even out irregularities.



2 **Bevel the edge.** Draw a line around the perimeter, 1⁄8" (3mm) down from the upper face. Tilt the table of a vertical belt sander to 45° and sand an even bevel from the upper face to this line along the side.

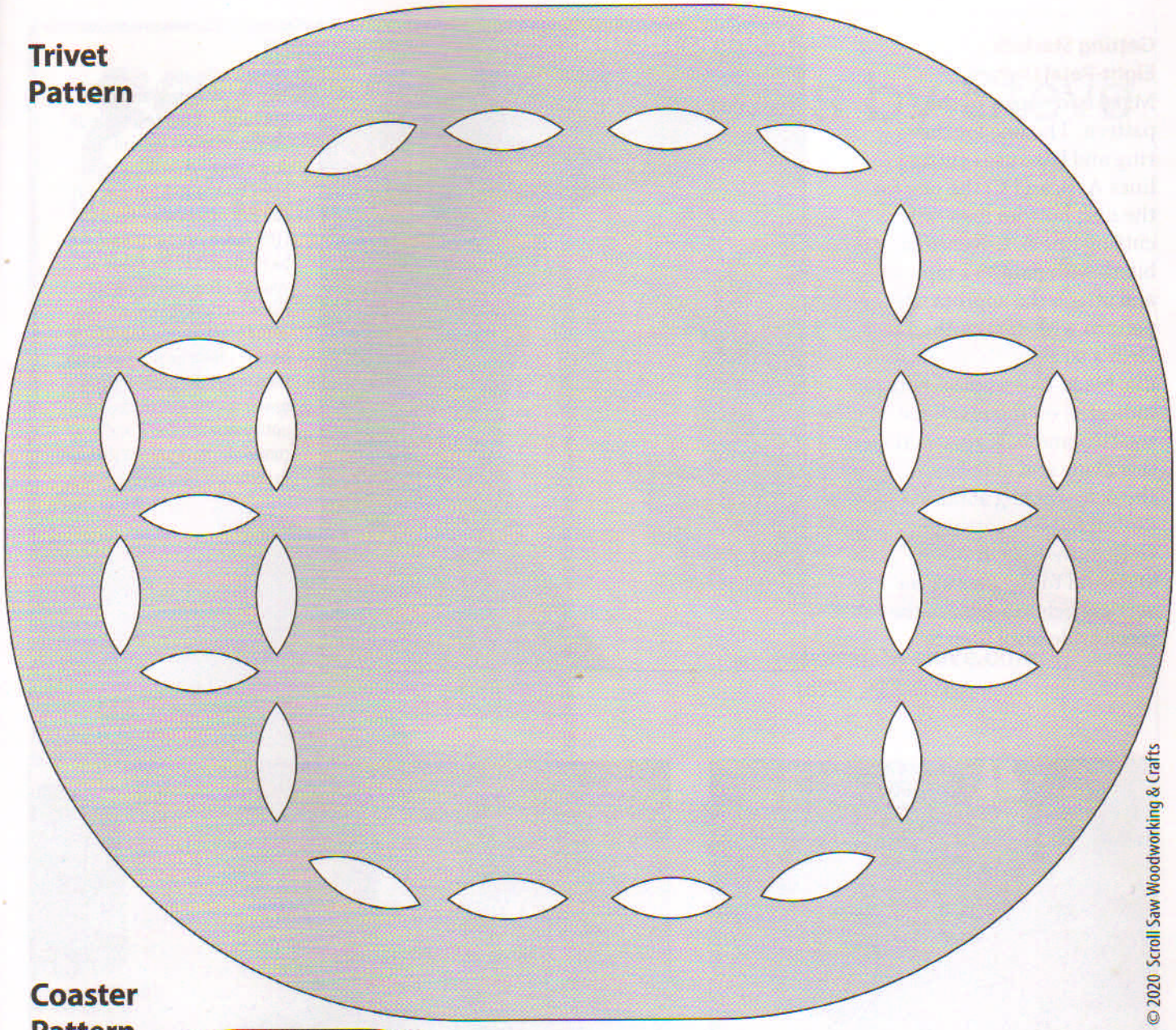


3 **Smooth the bevel.** Use a pneumatic drum to sand the edges of the bevel into a smooth curve and soften the bottom edge. Use a flexible pad sander with a soft pad and 240-grit disc to refine the curve. Finish with a 320-grit disc; hand-sand if needed.

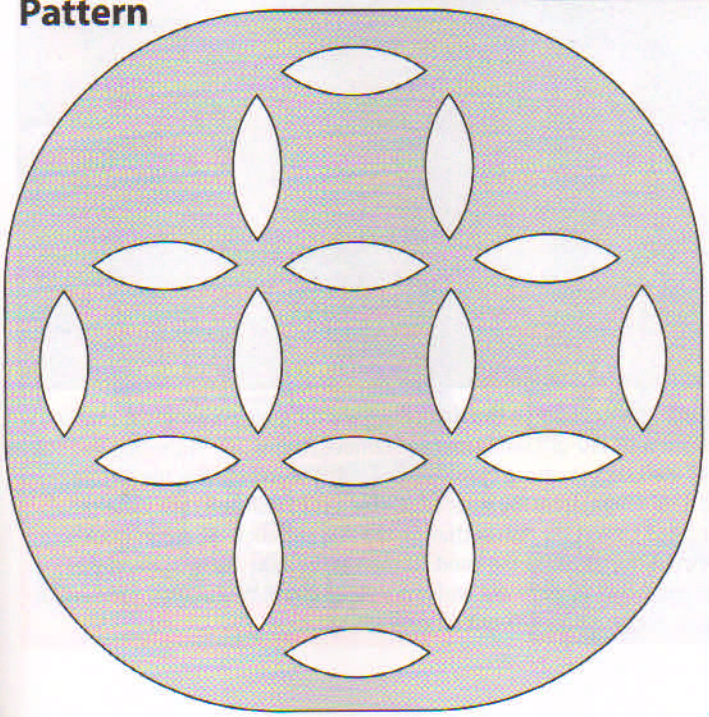


4 **Add the finishing touches.** Use a Mac Mop to contour the upper surface of the frets and to refine the edges; rotate the workpiece to reach all areas. Buff the trivet with a 320-grit sanding mop until you achieve a soft sheen.

Trivet Pattern



Coaster Pattern



Materials & Tools

Materials

- Corian, ½" (12mm) thick: trivet, 7" x 8" (17.8cm x 20.3cm)
- Corian, ½" (12mm) thick: coaster, 4" (10.2cm) square
- Spray adhesive
- Tape: blue painter's
- Sandpaper: assorted grits
- Drill with bit: 3⁄16" (5mm)-dia.
- Sanding sticks or needle files
- Sanders: vertical belt, pneumatic drum, 180- or 240-grit Mac Mop, 320-grit sanding mop, flexible pad sander (soft density) with 240- and 320-grit discs

Tools

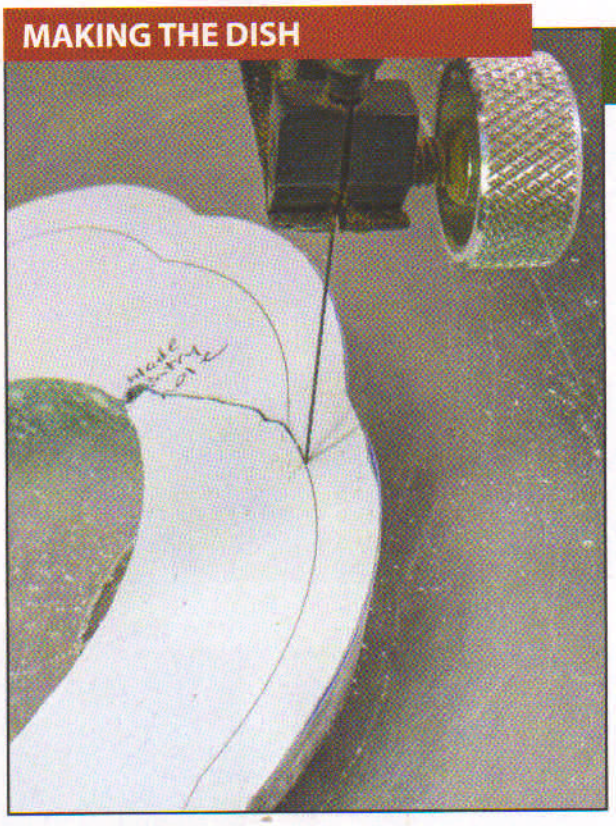
- Scroll saw with blades: #5 skip-tooth, such as Flying Dutchman Polar

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Getting Started: Eight-Petal Dish

Make two copies of the pattern. The one for the ring and base uses cutting lines A, B, and C; the one for the dish bottom uses only cutting line B. Cover each blank with painter's tape and attach the appropriate pattern with spray adhesive. Drill a straight 3/16" (5mm)-dia. blade-entry hole where indicated on the blank for the ring and base. Insert the saw blade and cut around the oval, cutting about 1/16" (2mm) outside cutting line C. Remove the cut piece and sand to the line with a vertical belt sander. Set the piece aside until Step 5.

MAKING THE DISH



1 **Cut the ring and dish bottom.** Tilt the saw table 38° down to the left (or arm 38° down to the right). Using the blank for the dish bottom, cut line B in a clockwise direction. (This means that the blank will be to the left of the blade as you cut.) This is the only cut made on this blank. Cut line A of the blank for the ring and base in the same manner, and then insert the blade into the center cutout. Cut clockwise until you reach line B and continue cutting along that line to complete the ring.

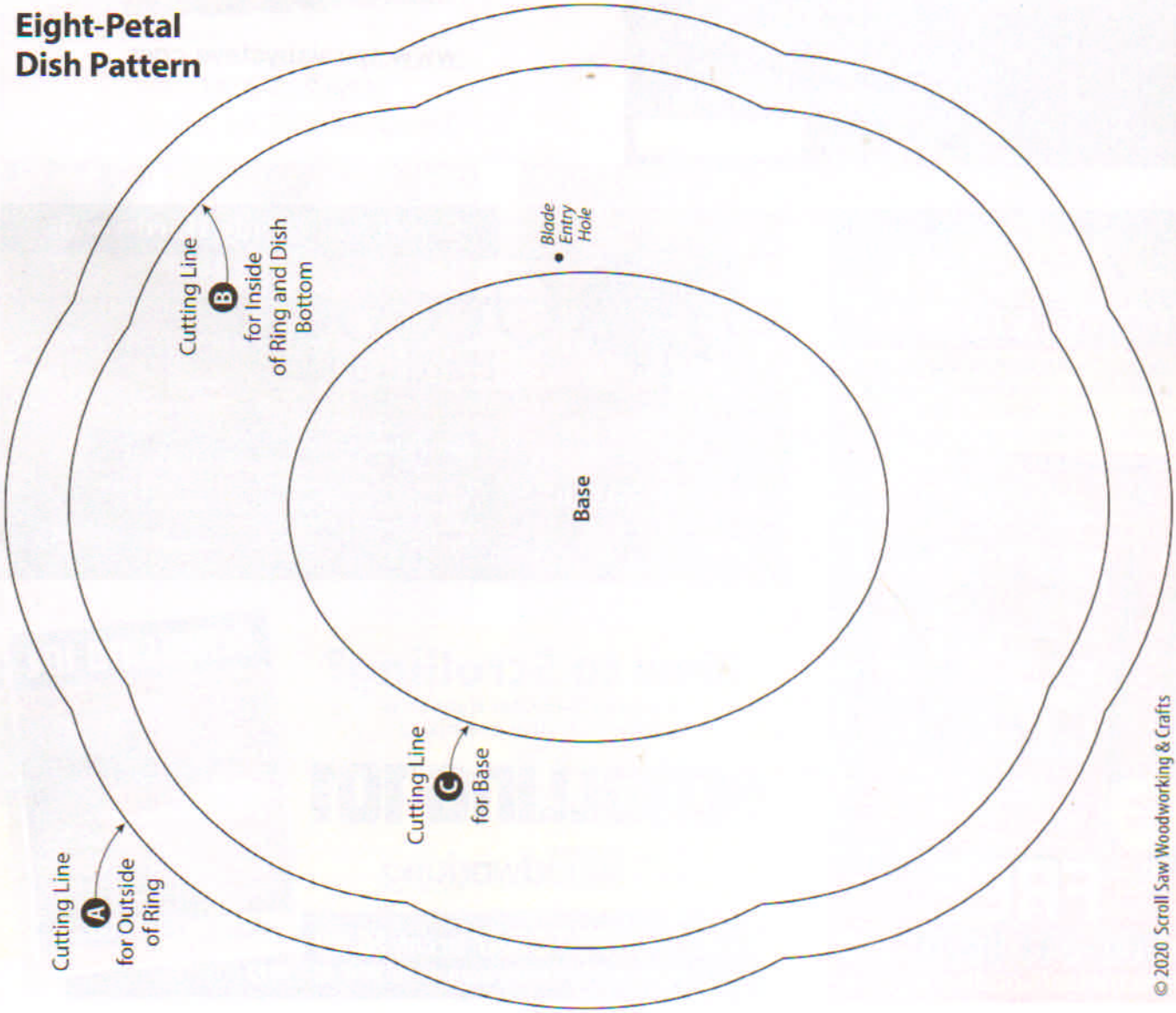
2 **Shape the ring.** Use a round inflatable sander to sand the inside of the ring until the surface is smooth and the petals are well shaped. Start with the coarse sleeve, and then move to the medium and fine sleeves. Sand the surface of the dish bottom progressively until you reach 320-grit. Use a sanding block or orbital sander.

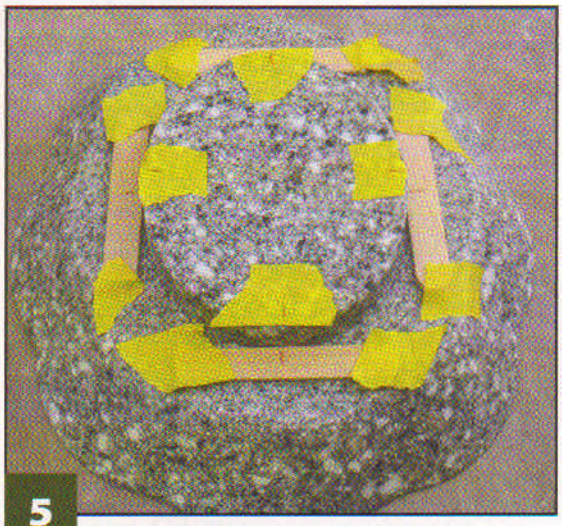
3 **Attach the bottom to the dish.** Roughen the gluing areas of the ring and dish bottom with 150-grit sandpaper and remove all dust. Invert the ring and use a thinned craft stick to spread cyanoacrylate (CA) glue evenly over the surface, keeping it 1/8" (3mm) from the inner edge. (For a soap dish, use clear waterproof epoxy instead.) Invert the dish bottom on the ring and align the pieces quickly. Press down firmly to secure the bond. As soon as the adhesive sets, invert the dish and remove all squeeze-out with a dry paper towel. When cured, sand away remaining residue with a 320-grit sanding sponge.

4

Refine the dish. Use a small pneumatic drum to smooth the exterior joint between the ring and dish bottom, and a small round inflatable to deepen the recesses between petals. Switch to a 2" (5.1cm) flexible pad sander (standard density), and use a medium-grit disc to remove all irregularities and to complete the exterior shaping. Refine the surface with a 2" (5.1cm) or 3" (7.6cm) flexible pad sander (soft density), sanding through the grits until you reach 320. Soften the upper and lower edges with a pneumatic drum. Contour the inside upper edge with the large and small round inflatable sanders. Sand all newly contoured areas to 320-grit. Use a 320-grit sanding mop to refine the edges and to buff all surfaces to a soft sheen.

Eight-Petal Dish Pattern





5

Add the base. Sand the sides of the base (cut in Getting Started) progressively to 320-grit with a flexible pad sander (soft density). Soften the bottom edge with a pneumatic drum. Buff the sides to a soft sheen with a 320-grit sanding mop. Center the base on the underside of the dish. Because CA glue allows little time for adjustment, use craft sticks and painter's tape to mark the exact location. Roughen gluing surfaces, remove all sanding dust, and attach the base with drops of CA glue placed away from the edges to prevent squeeze-out. Position quickly, and then press down to secure the bond.

Materials & Tools

Materials

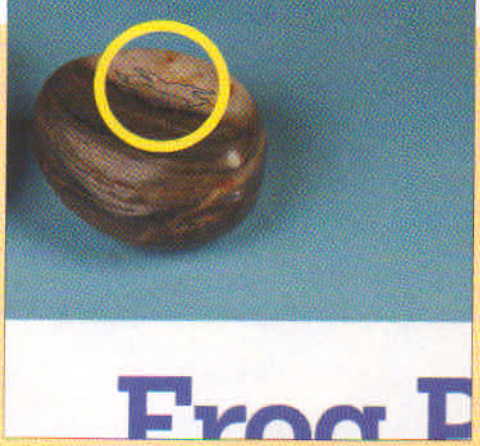
- Corian, ½" (12mm) thick: ring and base, 6½" x 7½" (16.5cm x 19.1cm)
- Corian, ½" (12mm) thick: dish bottom, 5¾" x 6¾" (14.6cm x 17.2cm)
- Spray adhesive
- Thick cyanoacrylate (CA) glue or waterproof clear epoxy
- Tape: painter's
- Sandpaper: 150- to 320-grit
- Sanding sponge: 320-grit
- Wooden craft sticks
- Paper towels

Tools

- Scroll saw with blades: #5 skip-tooth, such as Flying Dutchman Polar
- Drill with bit: 3⁄16" (5mm)-dia.
- Sanders: orbital (optional); vertical belt; 2" (5.1cm) flexible pad (regular density) and assorted discs; 2" (5.1cm) or 3" (7.6cm) flexible pad (soft density) and assorted discs; regular and small round inflatable with assorted sleeves; small pneumatic drum with assorted sleeves; 320-grit sanding mop
- Clamps

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Carole Rothman of Pawling, N.Y., is a retired psychologist and college professor. She is also an award-winning cake decorator. Visit Carole online at scrollsawbowls.blogspot.com. You'll find her books, Creative Wooden Boxes from the Scroll Saw *and* Scroll Saw Wooden Bowls: Revised & Expanded Edition, *at foxchapelpublishing.com.*



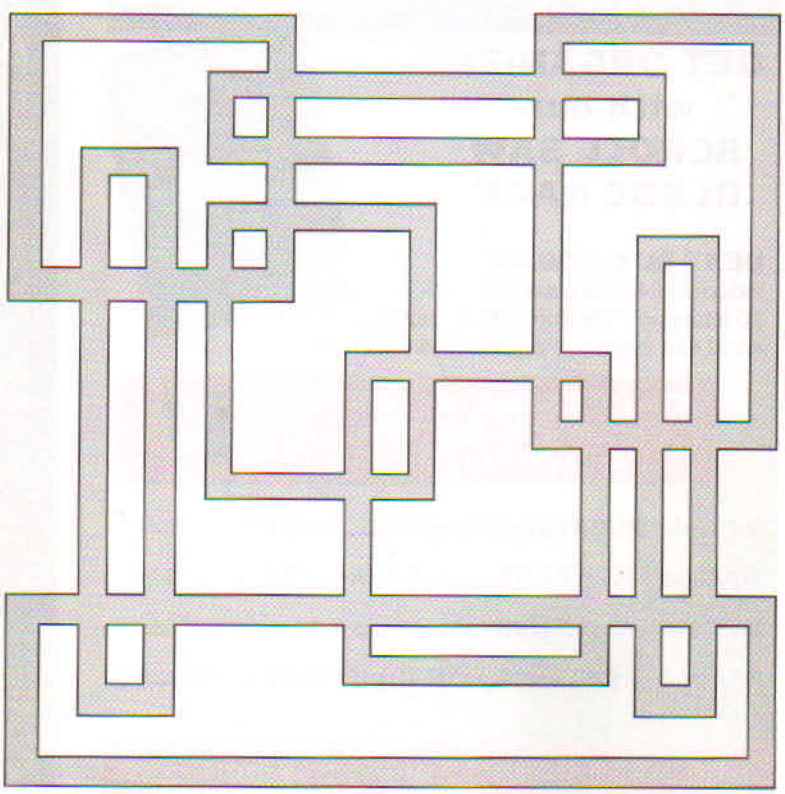
Fox Hunt

Cheryl Rowe of Pleasant Shade, Tenn., and Robert Talbert of Payson, Utah, were randomly drawn from the participants who located the fox in our last issue (Summer 2020, Issue #79). The fox was lounging in the rocks by Wanda Sowry's "Frog Pond Automaton", on page 60.

Find the fox in this issue, 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 August 10, 2020, 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).*

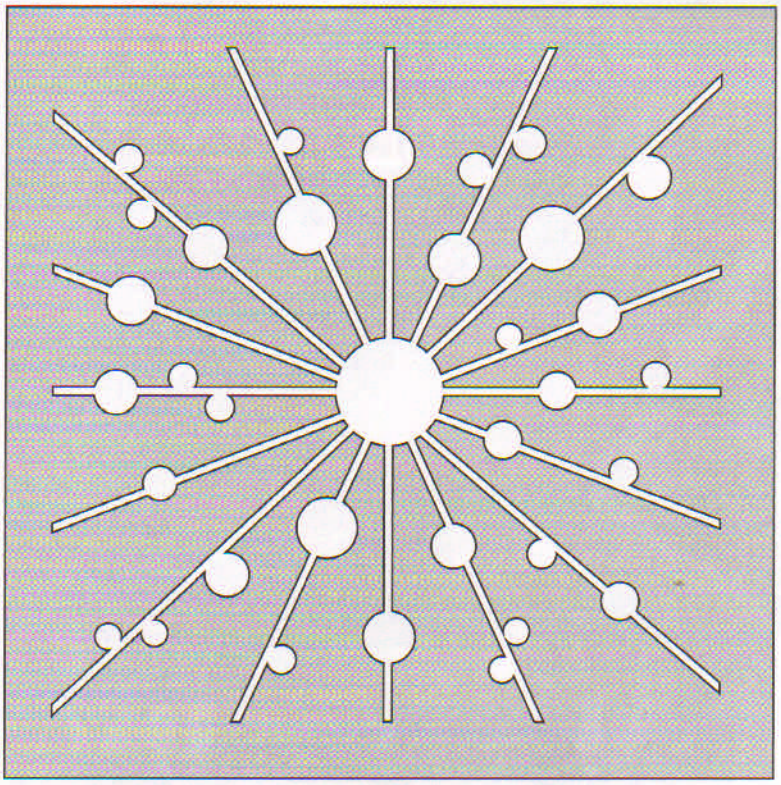
Send your entry to SSW&C, Attn: Find the Fox, 903 Square Street, Mount Joy, PA 17552 or enter online at scrollsawer.com.

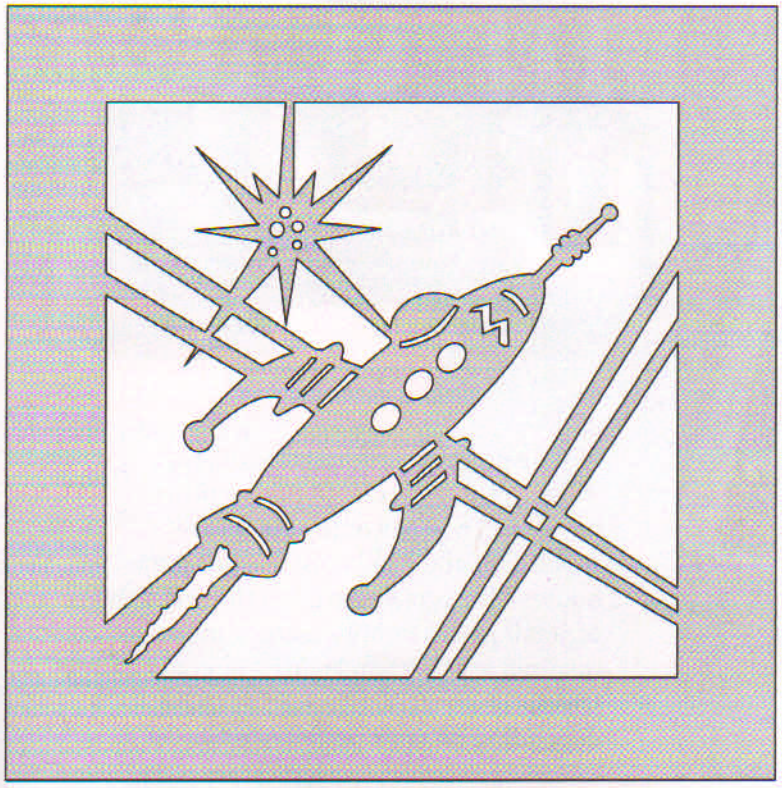
Creative Modern Coasters Pattern



(Continued from page 72)

Creative Modern Coasters Patterns





Prepping and Cutting

Pre-sand the blanks with 150- and then 220-grit sandpaper. Then photocopy the patterns and attach them to the blanks; I used temporary pattern tape, but you can cover the blanks with blue painter's tape and attach the patterns with spray adhesive, if desired. Drill the blade-entry holes and cut the coasters.

Carefully remove the patterns and chamfer the outer edges of the top of each coaster, with the exception of the interlocking rectangles design, which I left untouched; I used a ⅛" (3mm)-dia. rounding bit in a rotary tool with a router plate, but you could also use a pneumatic drum sander. Gently sand the surfaces with 220- and then 320-grit sandpaper to remove any fuzzies. Finish as desired; I used a clear mineral oil to show off the beauty of the wood, but you could also fill the frets with heat resistant resin (500°F or higher) for added interest and stability.

Materials & Tools

Materials

- Wood, such as mahogany, ½" (1.3cm) thick: 4" (10.2cm) square
- Temporary pattern tape (or blue painter's tape and spray adhesive)
- Sandpaper: assorted grits
- Finish, such as mineral oil
- Resin: heat resistant (optional)

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Tools

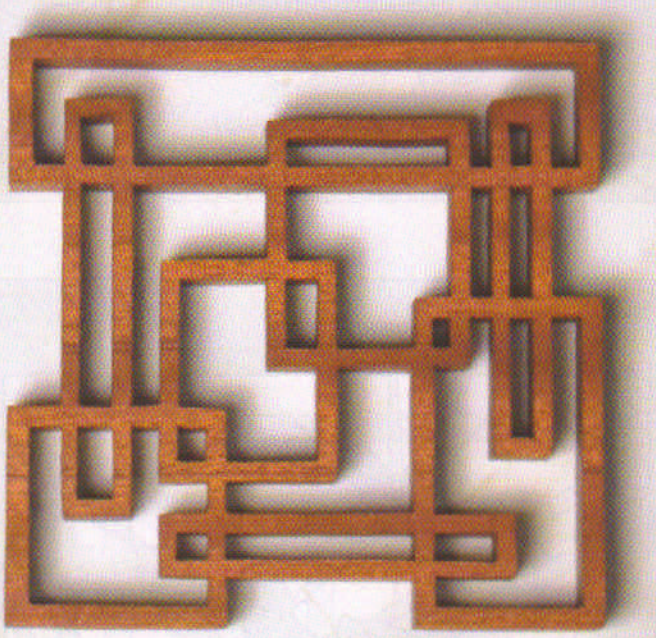
- Scroll saw with blades, such as #3 MGT
- Drill with bit: 1/16" (2mm)-dia.
- Rotary tool with router plate and bit: ⅛" (3mm) rounding
- Sander: pneumatic drum (optional)

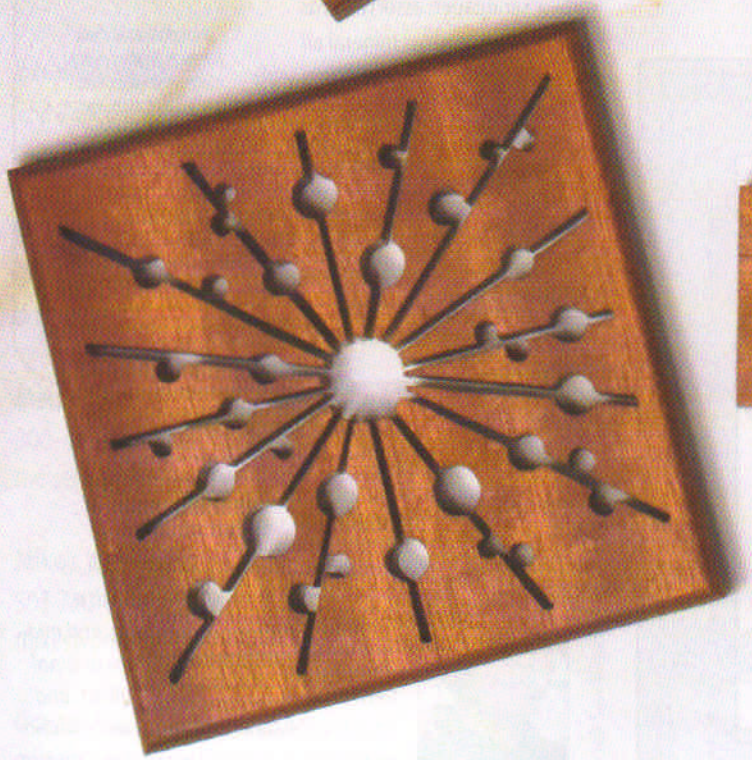
Frederick P. Arndt of Saginaw, Mich., is a retired automotive engineer with a passion for the arts, architecture, and mid-century modern style. He designs original fretworks, sculptures, metal wall art, and kitchen accessories. His work can be found in galleries across the United States and online at his Fred Arndt Artwork Etsy Store. Contact Frederick at fparndt@aol.com.

Creative Modern Coasters

These minimalist designs are just the accessories your coffee table needs

By Frederick Arndt
Cut by Tom Gauthier





I love creating original designs that reflect my interest in mid-century modern art. Many of my pieces are functional and can be used around the house. This project involves the creation of small pieces of mid-century modern-inspired art that can be used as coasters, trivets, or an attractive wall hanging, depending on your preference.

(Continued on page 71)

HEGNER

Is your old scroll saw getting tired? Or have you just outgrown it?

FACT: Almost any modern scroll saw outperforms older spring-tension saw designs.

FACT: **Only** hand-assembled HEGNER High-Performance Precision Saws from Germany **consistently** outperform other modern scroll saws.

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Why settle for less? You can own the saw recognized as the American and world-wide standard—the acknowledged leader in its class—for more than 40 years. And your true cost is only pennies a day!

Take your scroll sawing to the next level! Improve your shop today with a HEGNER High-Performance Precision Scroll Saw.

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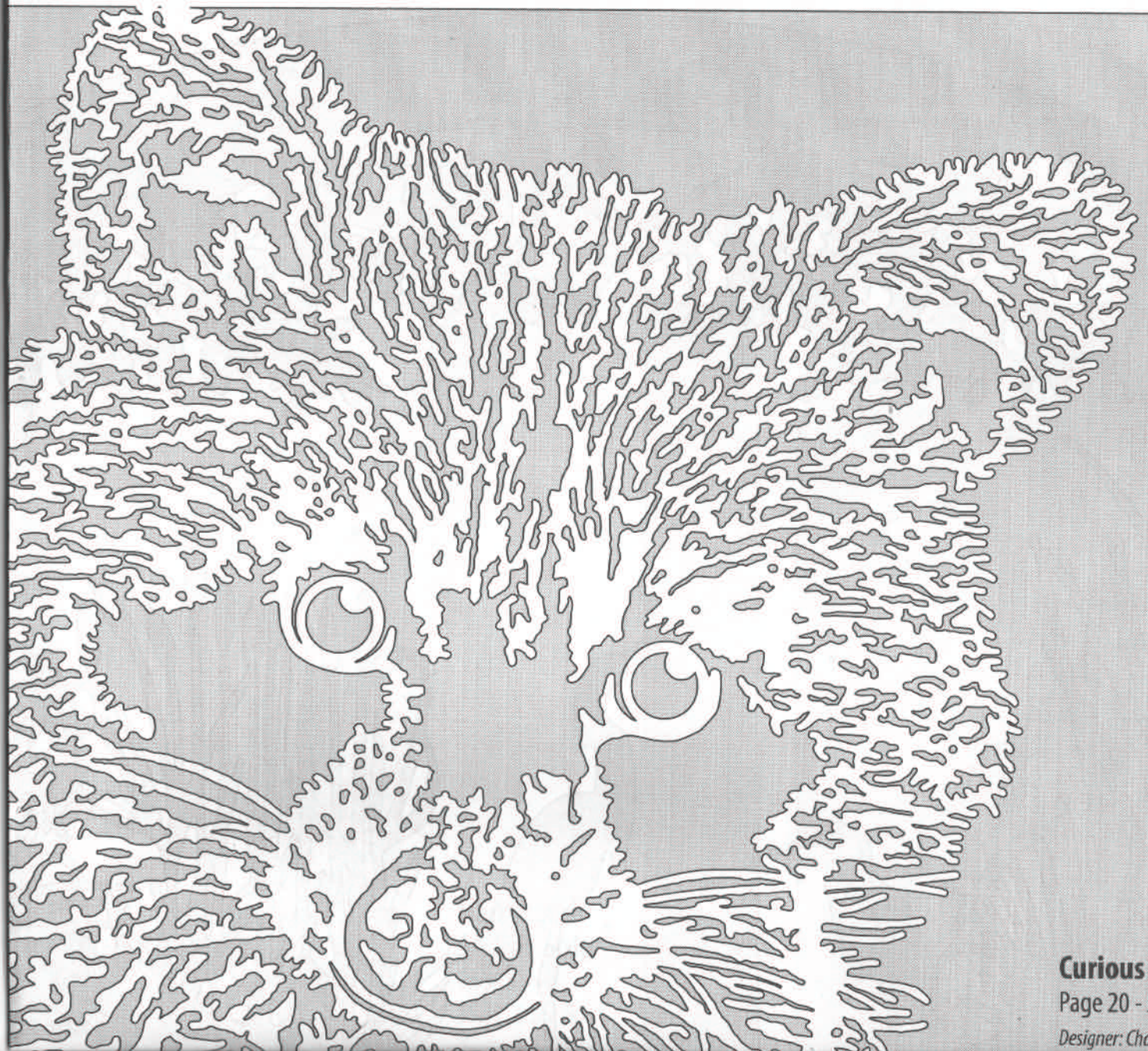
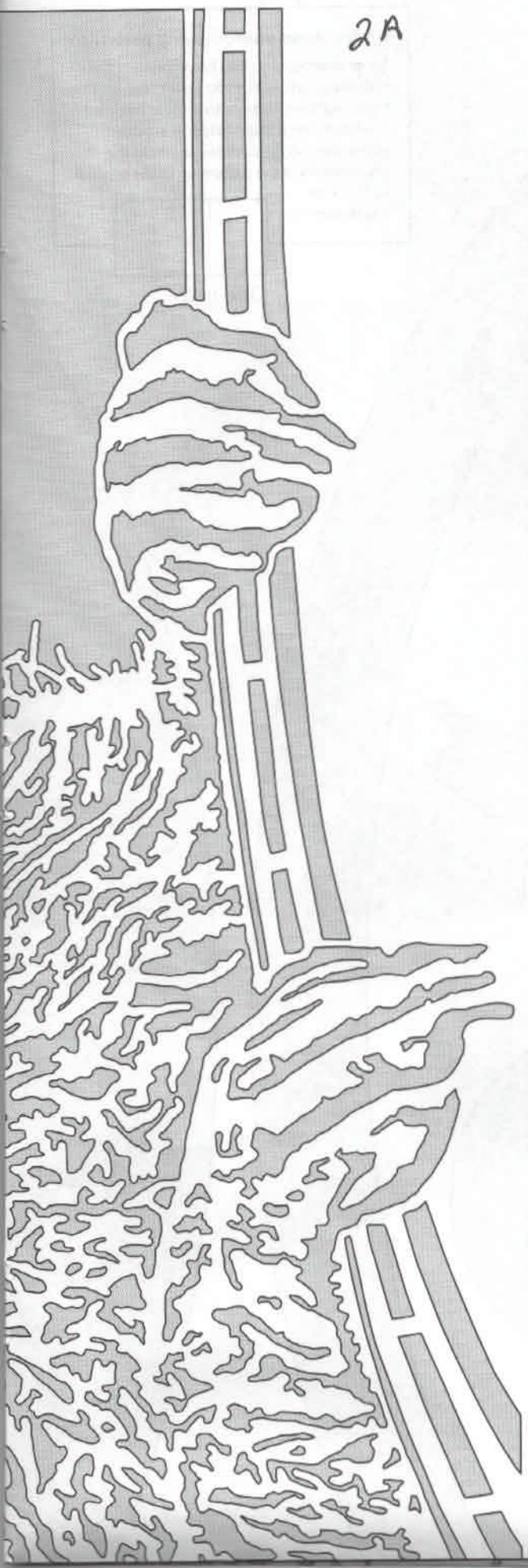


Curious Raccoon
Page 20 - *SSWC Issue 80*
Designer: Charles Hand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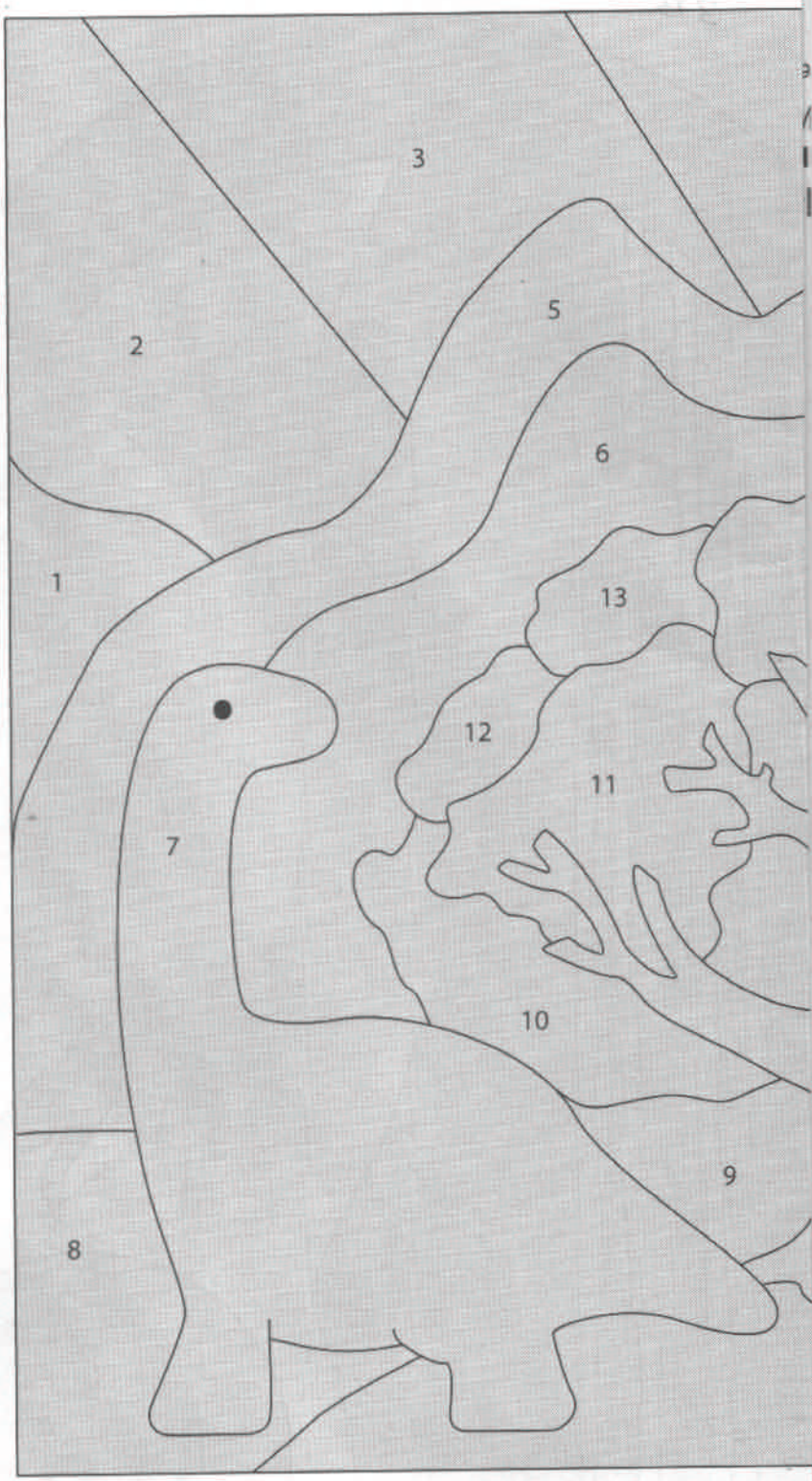
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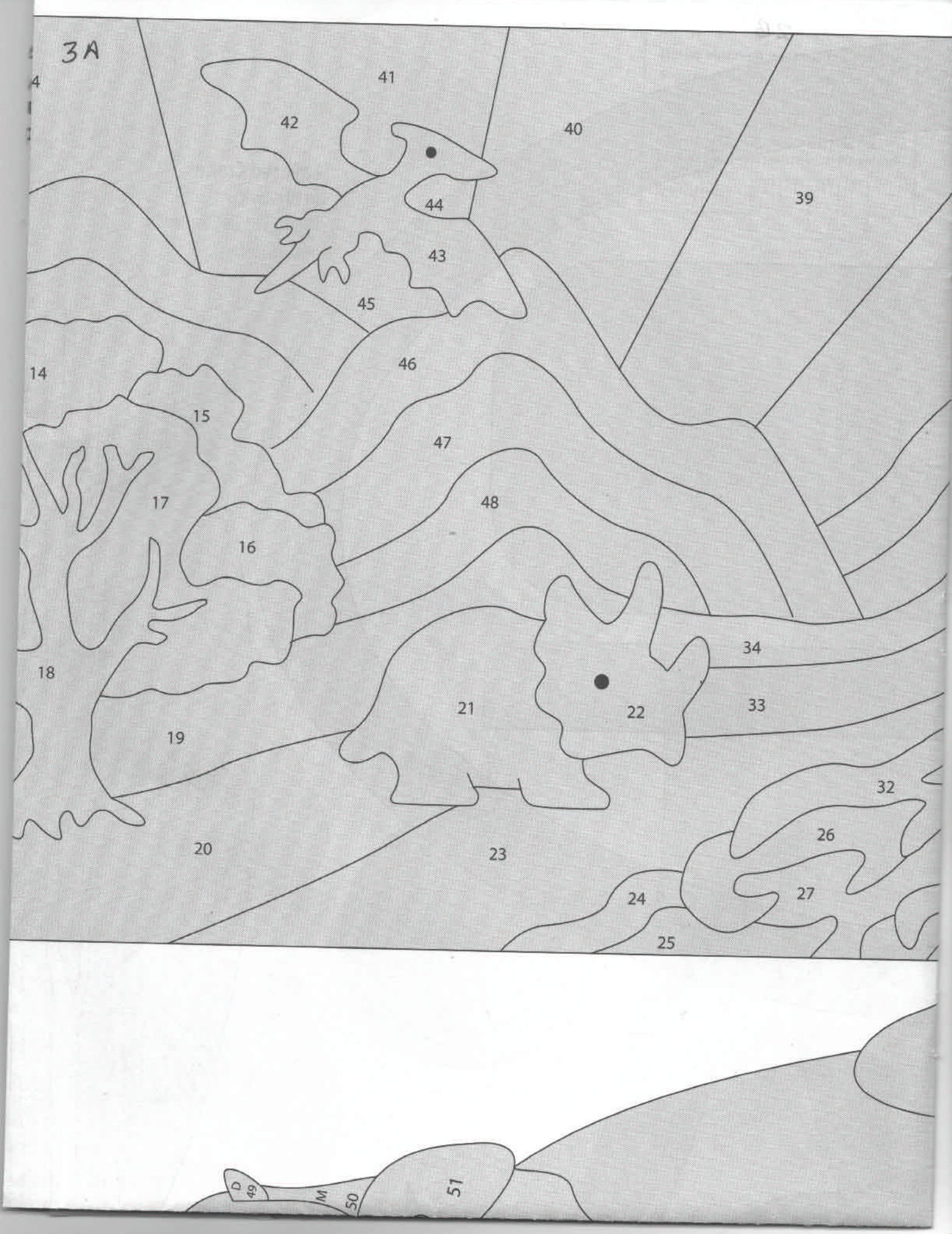
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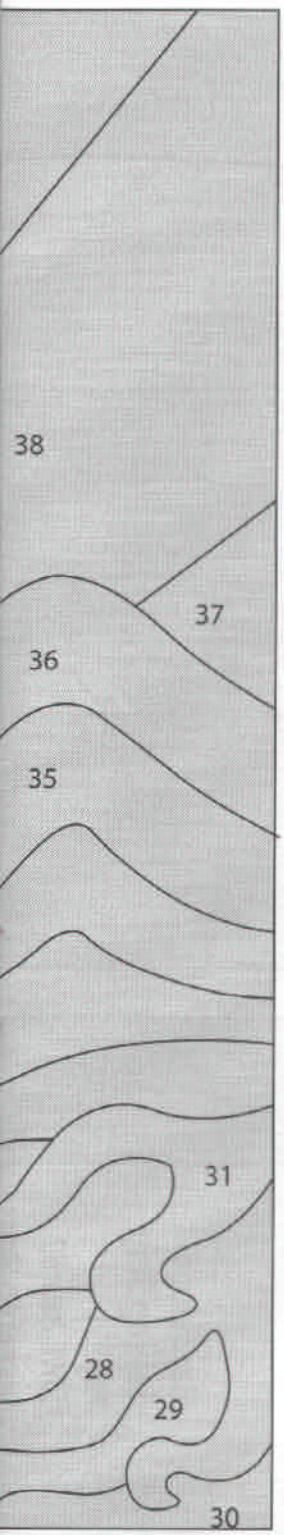
SCROLL SAW woodworking & CRAFTS

Fall 2020 - Issue 80

903 Square Street
Mount Joy, PA 17552

All patterns to be copied at 100% unless otherwise indicated.



Colorful Dinosaur Segmentation

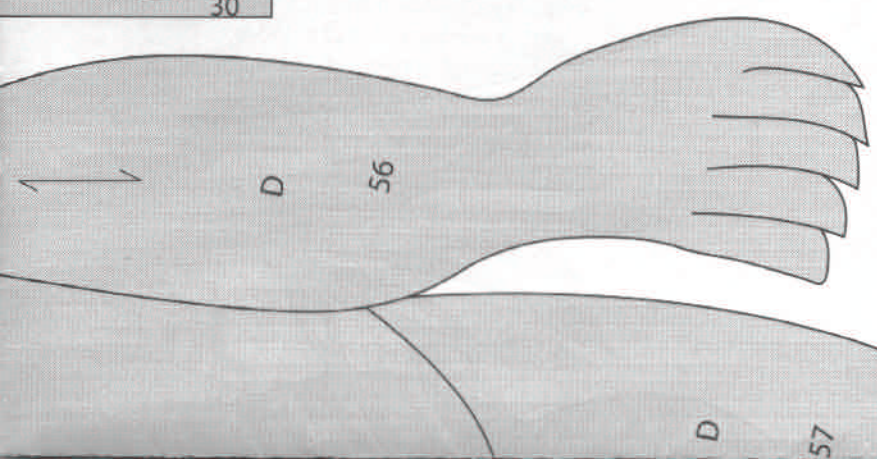
Page 38 - *SSWC Issue 80*

Designer: Emily Lewis

Notice about photocopying patterns

Some photocopiers and home printers can distort patterns when you print them, making them slightly off-size or stretching the image. Use the 1" bar printed below as a guide when copying the patterns and hold the photocopies of the pattern up to the original to check for any distortion.

One inch



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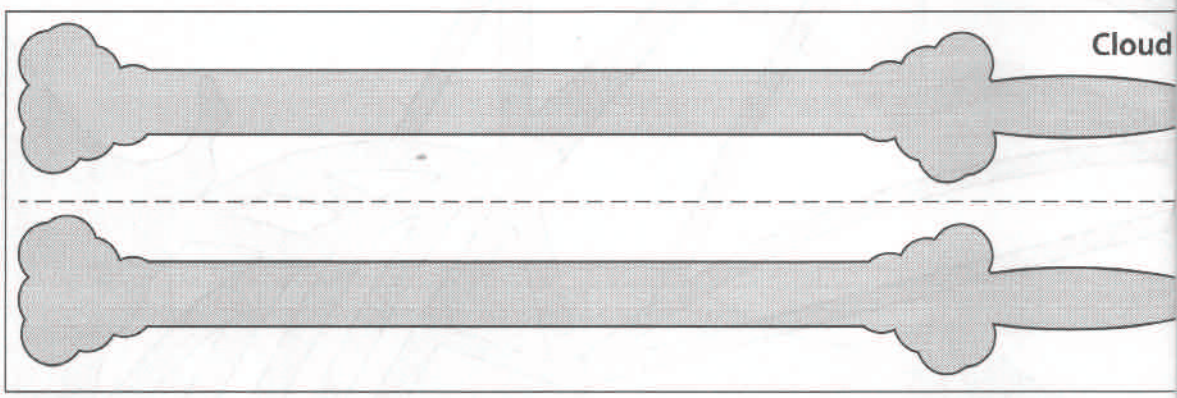

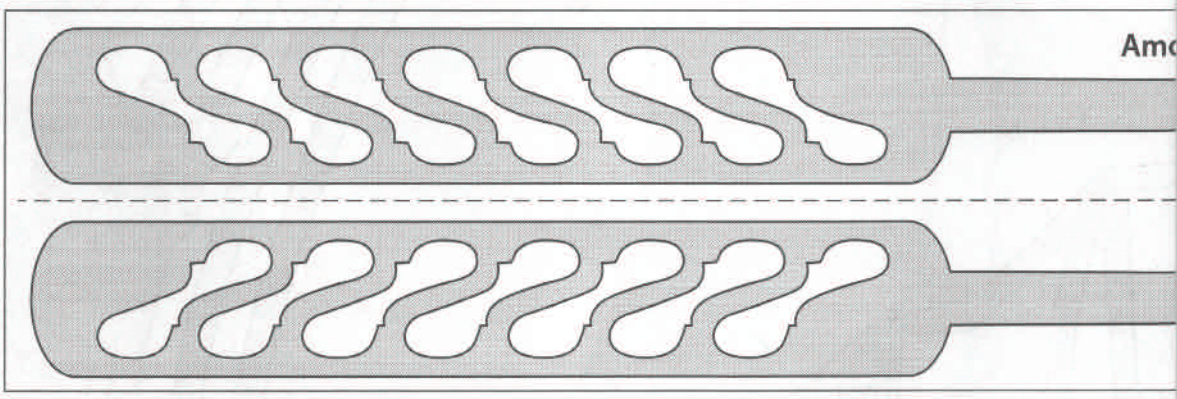

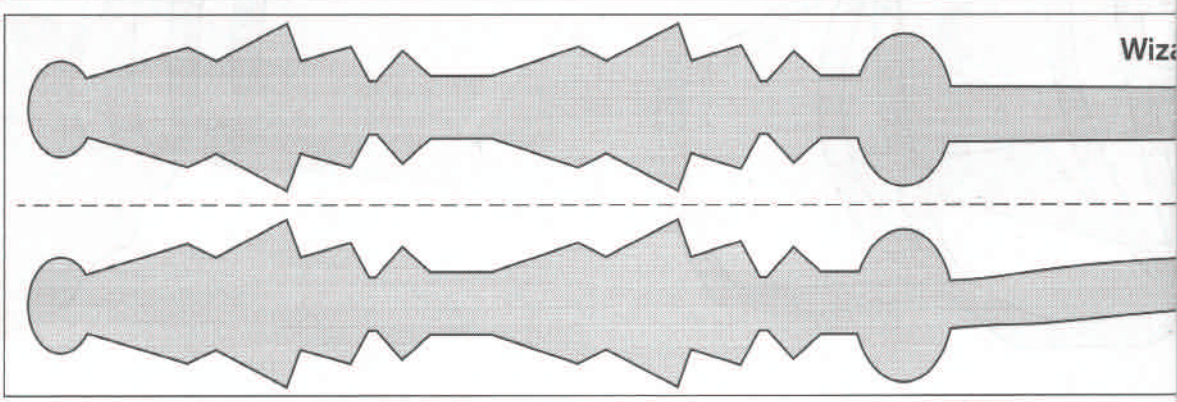

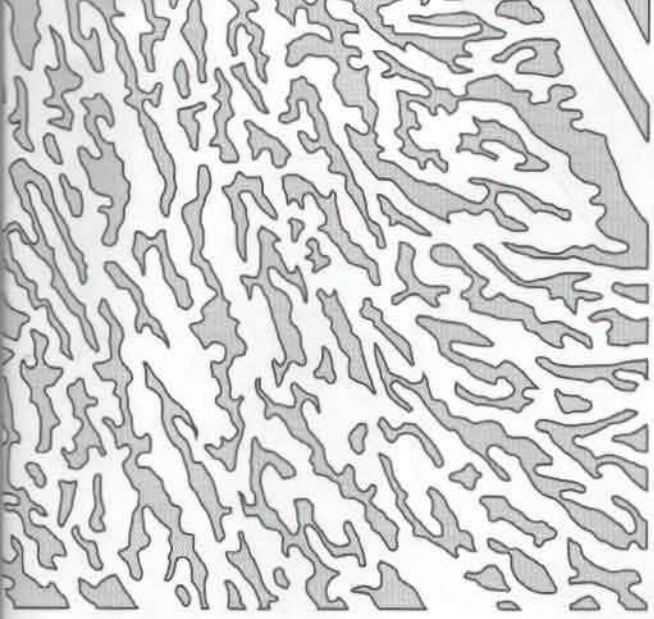

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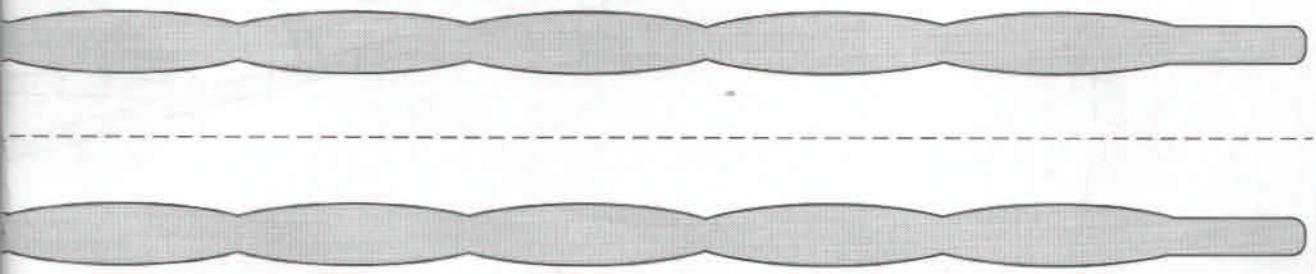

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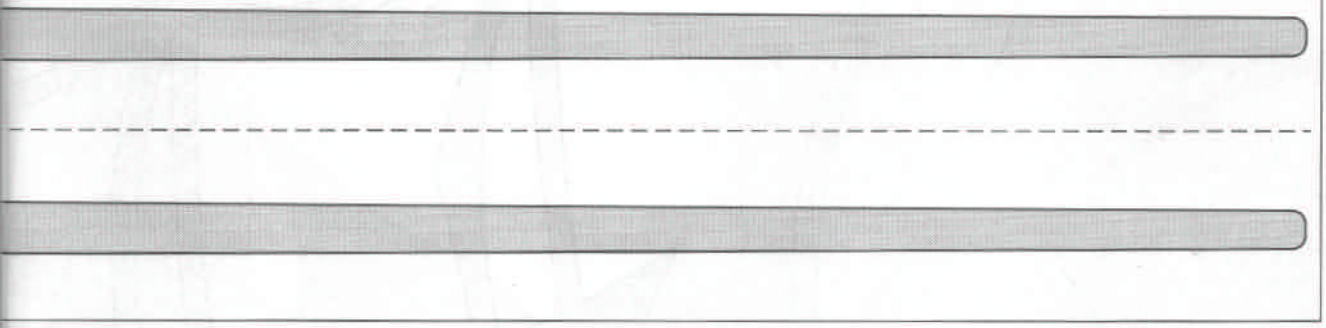

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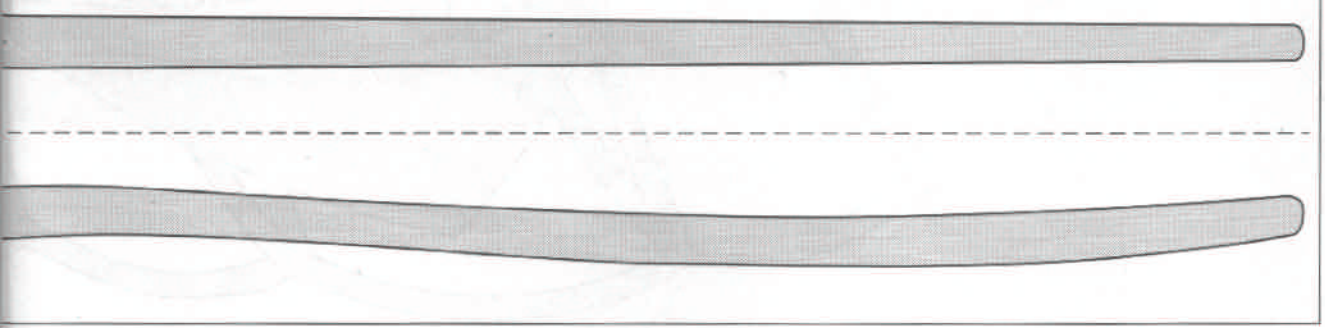

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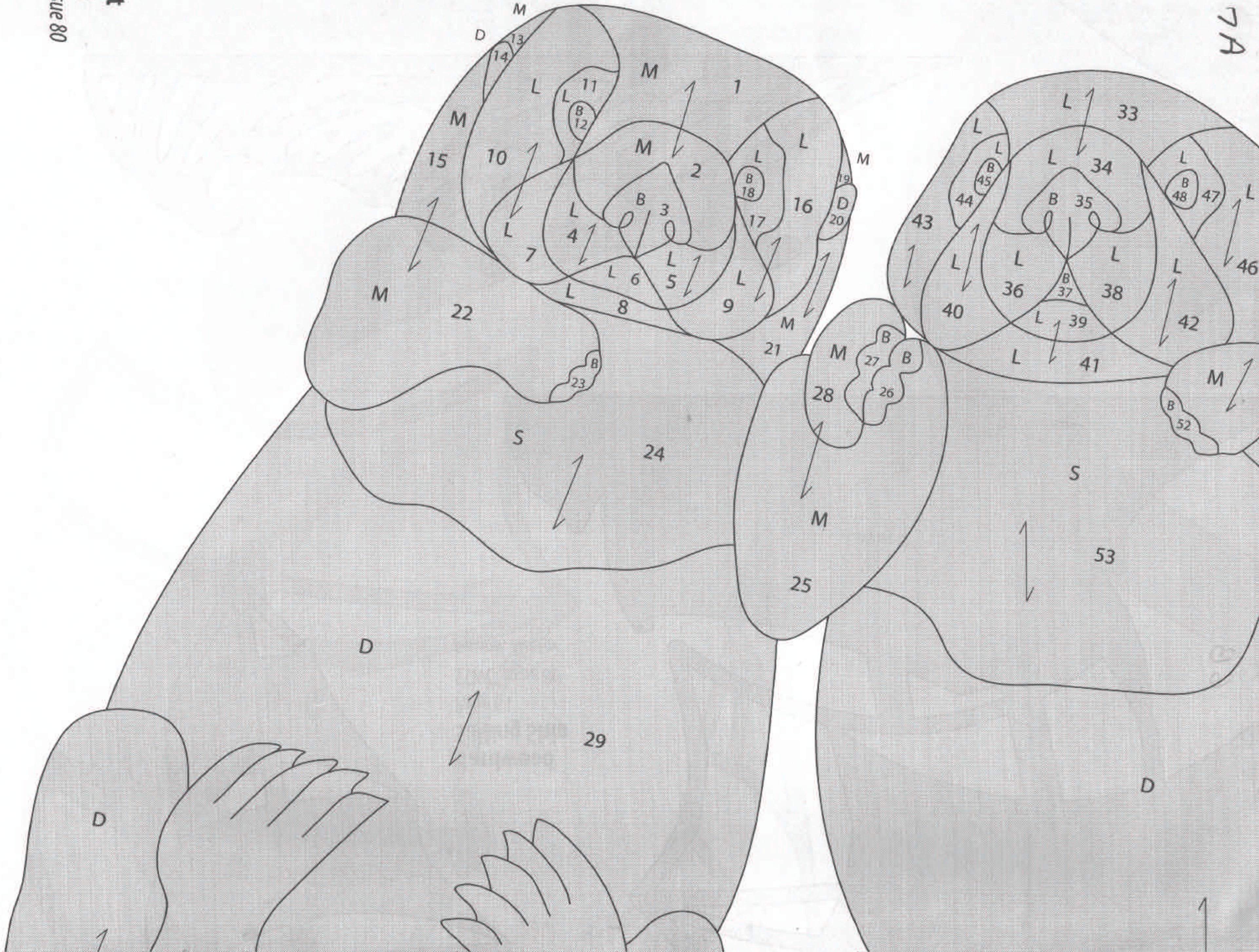
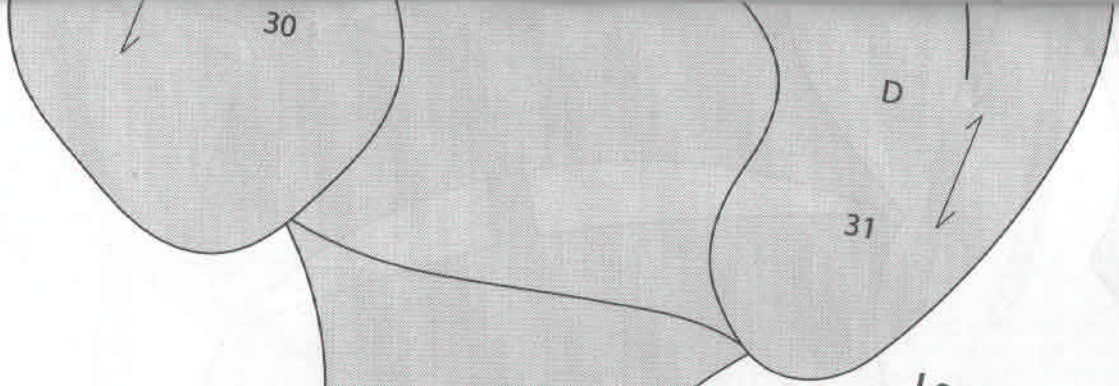
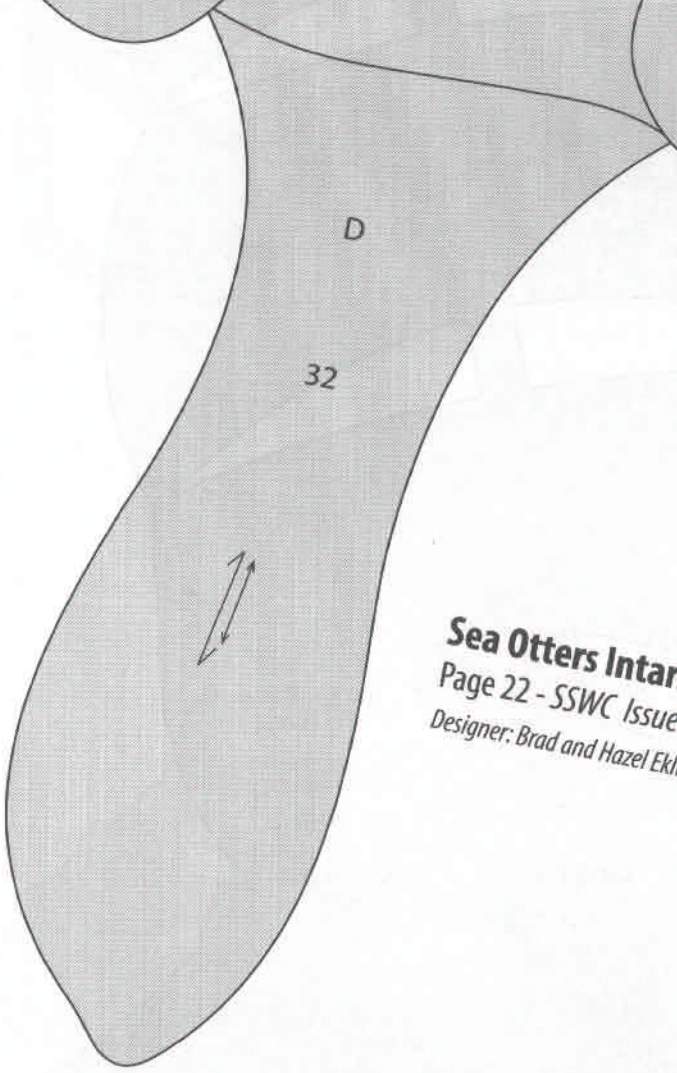
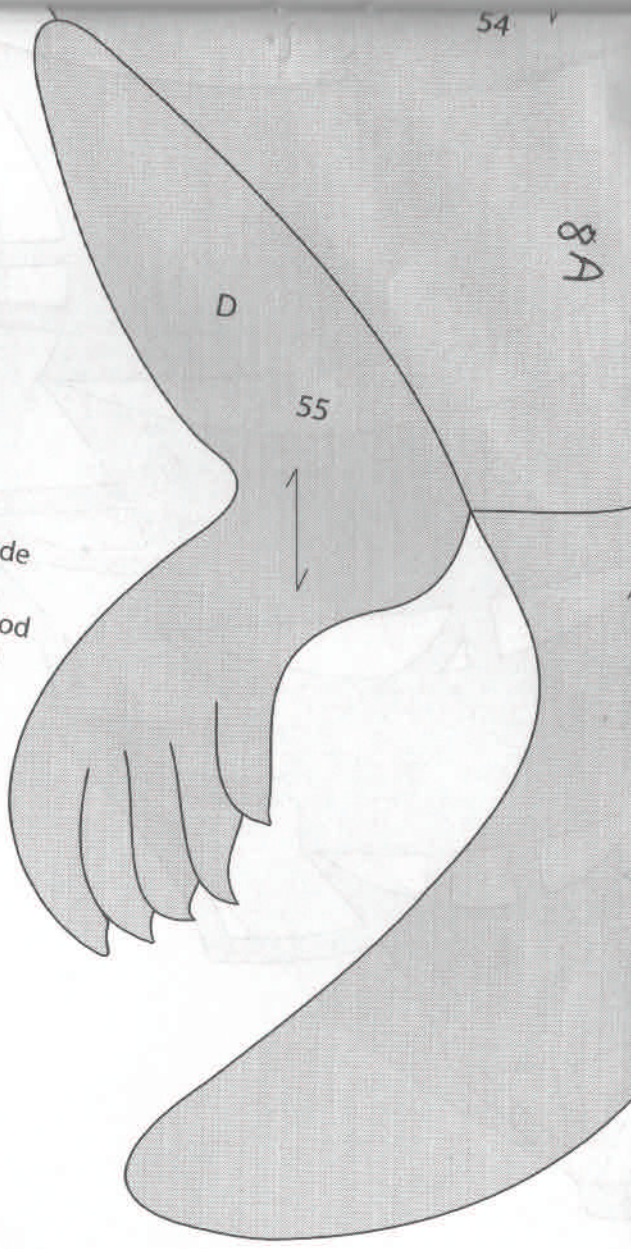








Legend

Grain direction

D..... Peruvian walnut, or any dark shade of wood

M..... Teak, or any medium shade of wood

L ..... Maple, or any light shade of wood

B..... Wenge, or any black shade wood

S..... Spalted oak, or any spalted wood

+¼" riser

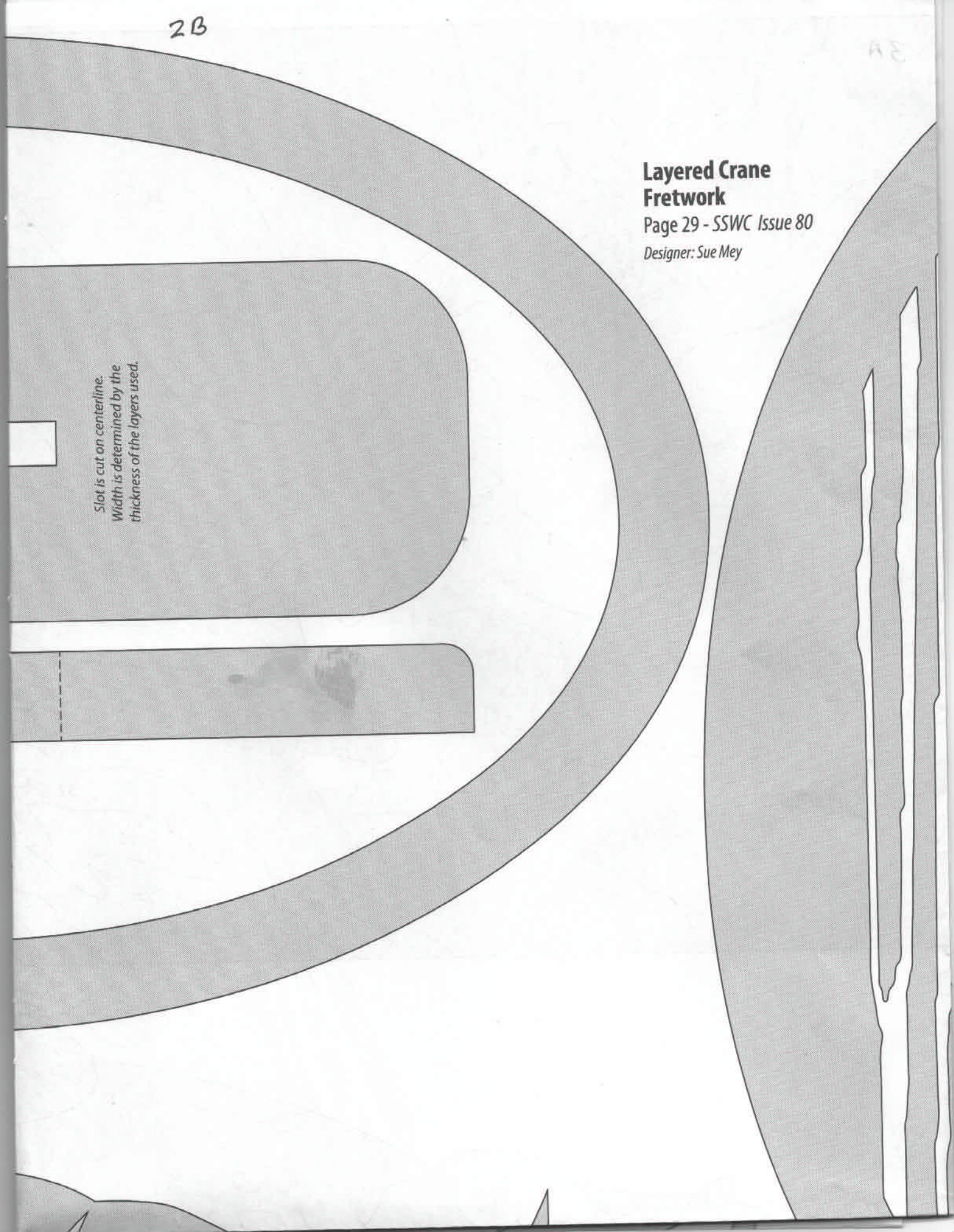
Sea Otters Intarsia

Page 22 - *SSWC Issue 80*

Designer: Brad and Hazel Eklund

1B

2B



Layered Crane Fretwork

Page 29 - *SSWC Issue 80*

Designer: Sue Mey

Notice about photocopying patterns

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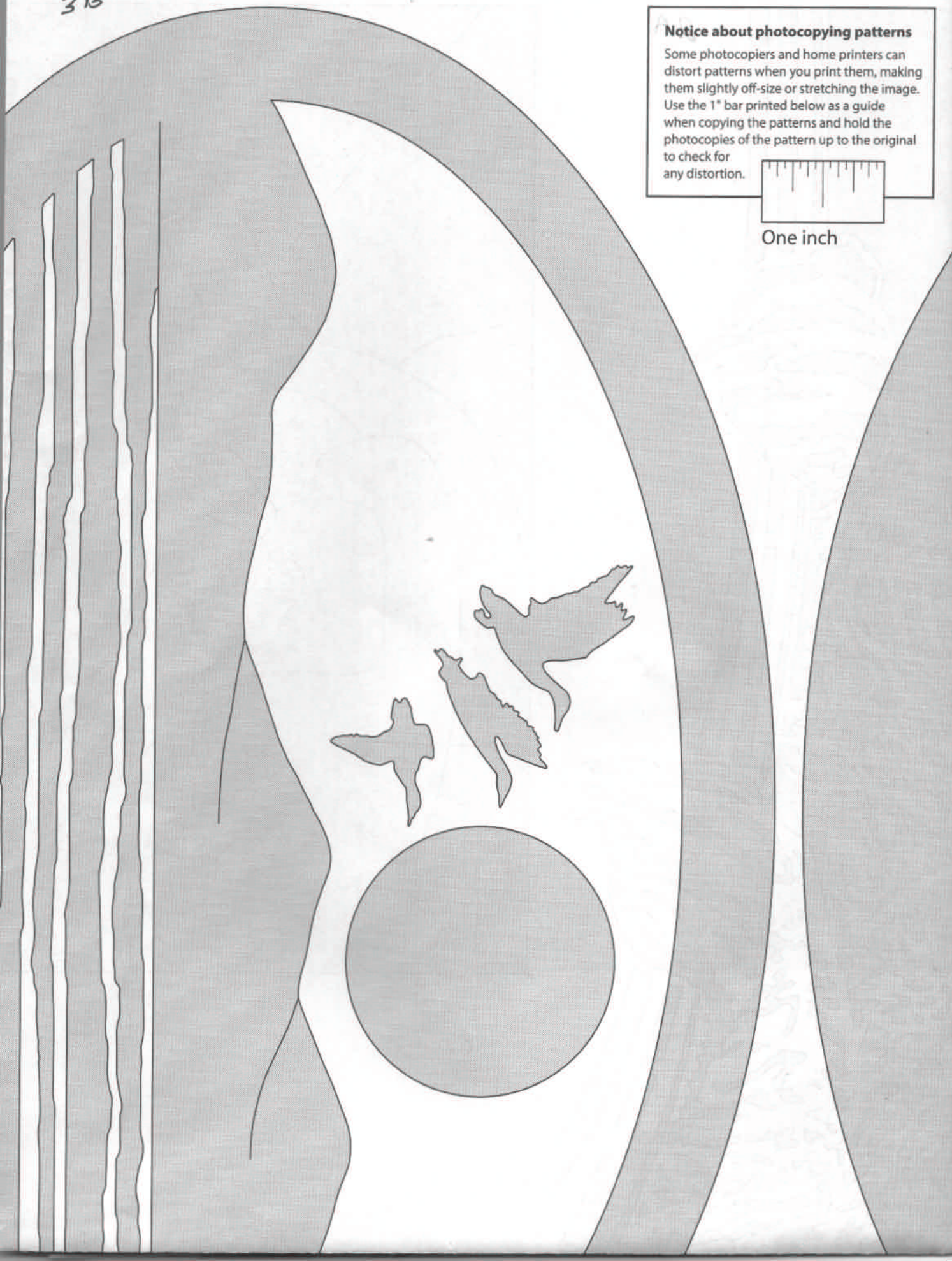
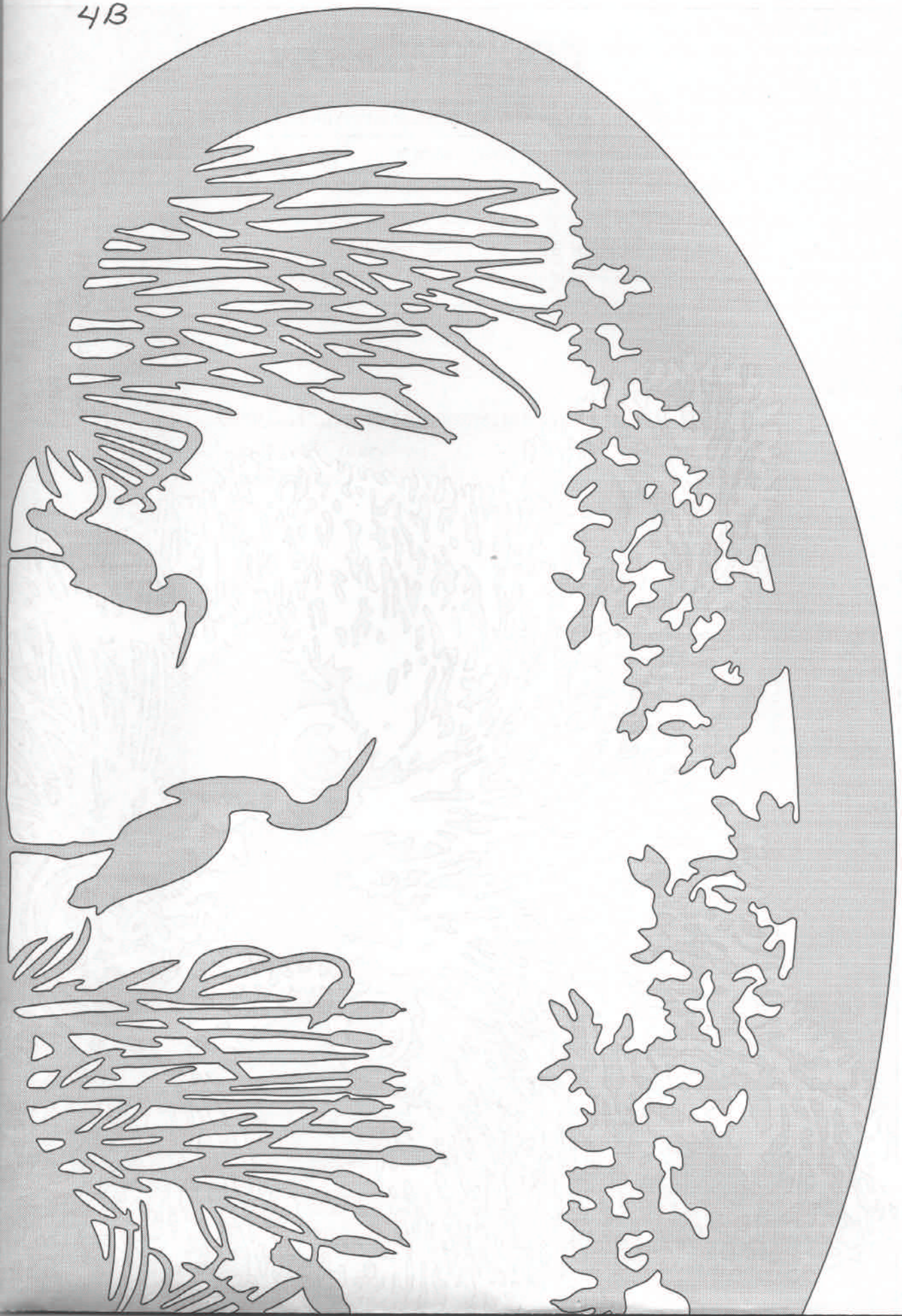
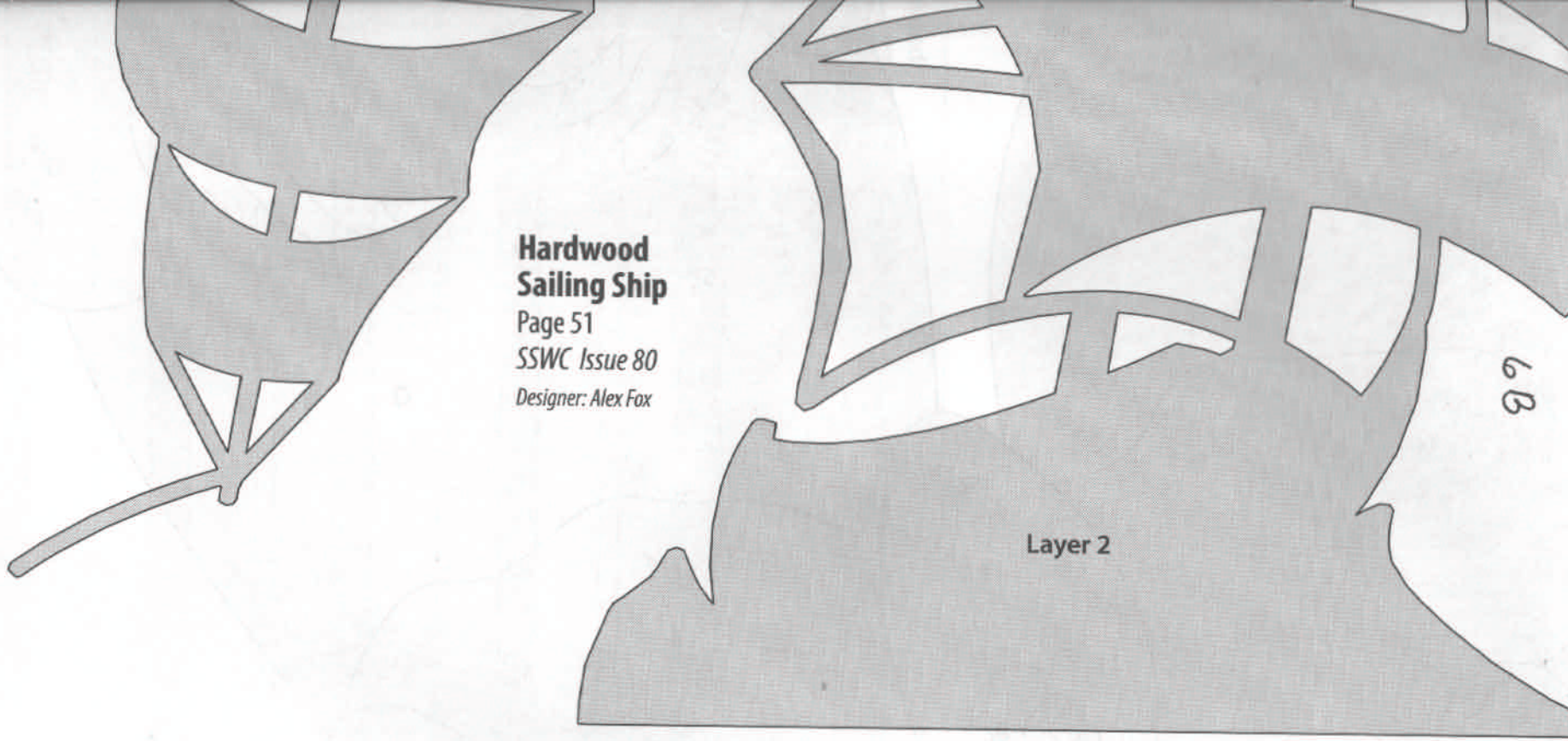
One inch

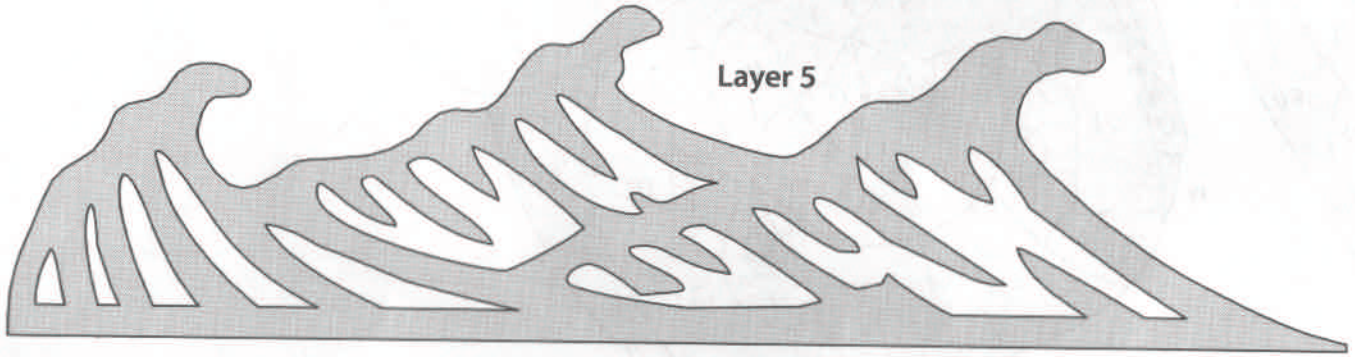


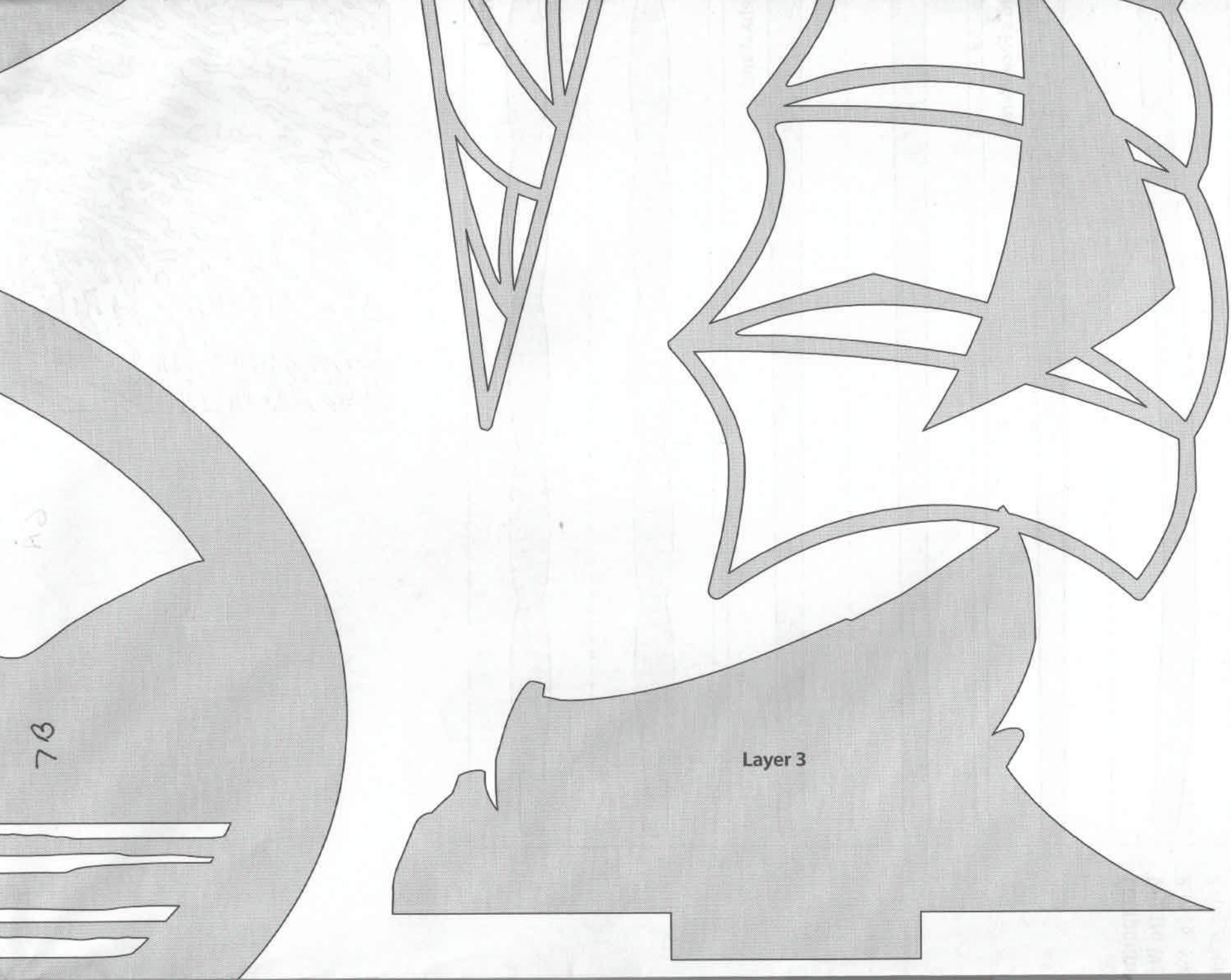

4B

5B

Hardwood Sailing Ship
Page 51
SSWC Issue 80
Designer: Alex Fox






Layer 3

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Layer 4