

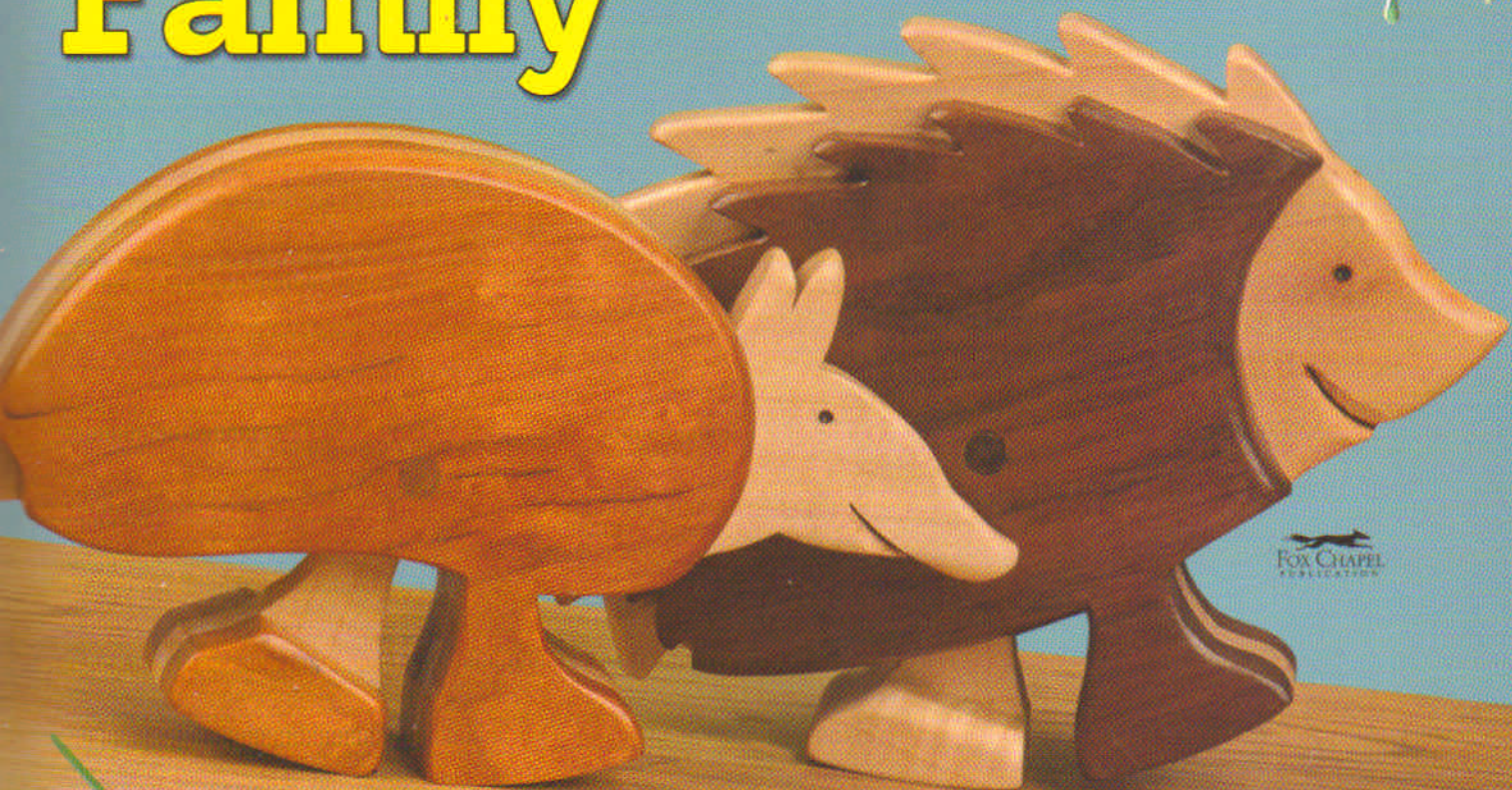
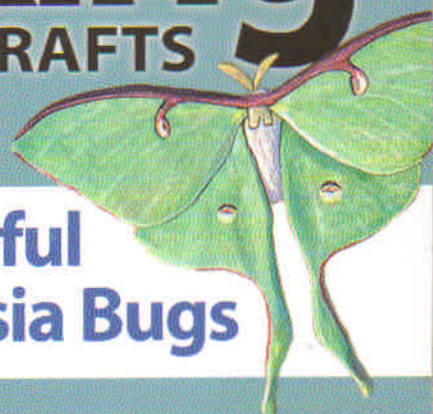
Space-Saving Hacks from a Tiny Workshop

SCROLLSAW WOODWORKING & CRAFTS

Projects
for the **Entire
Family**



**Colorful
Intarsia Bugs**



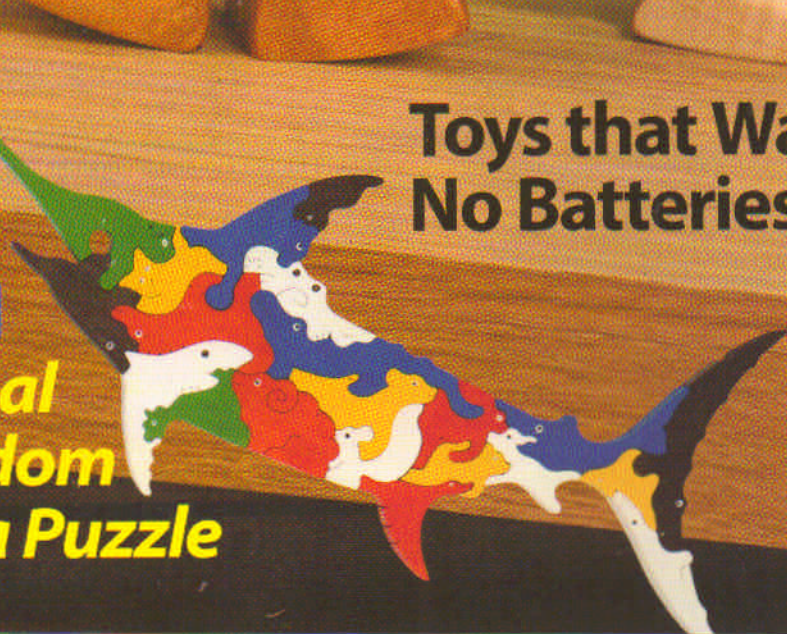
FOX CHAPEL
PUBLICATION

**Toys that Walk—
No Batteries Required!**

SPRING 2021
ISSUE 82

PLUS

**Animal
Kingdom
Mega Puzzle**



\$7.99US \$7.99CAN

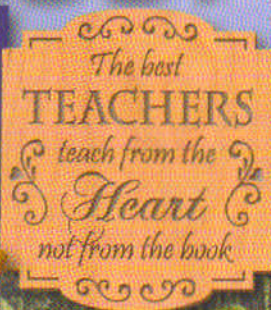


0 71658 01671 2

DISPLAY UNTIL APRIL 12, 2021

THE WOODEN TEDDY BEAR

Patterns, Plans, & Supplies
for the Woodworker



Peel & Stick Paper

Great for adhering your pattern to your wood for cutting. Peels off clean after done! Can be used in copiers and printers. 8 1/2" x 11" sheets.

5pcs - \$2.50	100pcs - \$30.00
25pcs - \$10.00	250pcs - \$65.00
50pcs - \$18.00	500pcs - \$120.00
75pcs - \$25.00	

1 7/16" Photo Frame Inserts

Glass lens, metal back, and spring clips.



1-4	- \$2.95 ea
5-9	- \$2.75 ea
10-19	- \$2.55 ea
20-49	- \$2.35 ea
50-99	- \$2.15 ea
100+	- \$1.95 ea

2" also available!

Stick & Release Tape

Product works double duty - adheres paper patterns to wood and keeps scroll saw blades lubricated. Peels off clean after done! Roll is 8 1/2" wide.

5ft roll	- \$6.95
20ft roll	- \$19.95

Baltic Birch & Hardwood Plywood

Baltic Birch

1/8" 12x12	- \$4.00-\$7.50 for 5 pcs
1/8" 12x24	- \$8.00-\$14.50 for 5 pcs
1/4" 12x12	- \$1.25-\$4.00 ea
1/4" 12x24	- \$3.00-\$6.50 ea

Hardwood Plywood

Red Oak - 1/4"	12x12 - \$5.00 ea	12x24 - \$10.00 ea
Cherry - 1/4"	12x12 - \$6.50 ea	12x24 - \$13.00 ea
Maple - 1/4"	12x12 - \$4.50 ea	12x24 - \$9.00 ea
Walnut - 1/4"	12x12 - \$6.75 ea	12x24 - \$13.50 ea



1 7/16" Clock Inserts

Glass lens, metal back, and spring clips.

Mix & Match for quantity.

1-4	- \$5.00 ea
5-9	- \$4.75 ea
10-19	- \$4.50 ea
20-49	- \$4.25 ea
50-99	- \$4.00 ea
100+	- \$3.75 ea

2" Economy available with spring clips also!

Flying Dutchman Blades

Ultra Reverse

2/0, 1, 3, 5, 7, 9

\$3.50 per Doz - \$33.60 per Gross

Scroll Reverse

2/0, 1, 3, 5, 7, 9, 12

\$3.30 per Doz - \$32.40 per Gross

New Spiral

3/0, 2/0, 1, 3, 5

\$3.80 per Doz - \$37.92 per Gross

Polar (Skip Tooth)

2/0, 1, 3, 5, 7, 9

\$3.20 per Doz - \$31.20 per Gross

Penguin Silver (Double Tooth)

2/0, 1, 3, 5, 7, 9

\$2.95 per Doz - \$29.40 per Gross

Penguin Silver Reverse

(Double Reverse)

2/0, 1, 3, 5, 7, 9

\$3.00 per Doz - \$31.20 per Gross

And Many More!!

See our website to
place an order!

www.woodenteddybear.com

1-888-762-9149

The Ultimate Scroll Sawing experience

Seyco's ST-21 Swing Tilt Head Scroll Saw.

FEATURING:

- Performance Proven link Drive system
- Finger Operated Blade Clamps
- Constant Power DC Variable Speed
- 21" Throat Depth • 16 1/4" X 28" Table
- 8 3/8" in front of Blade
- Two Year **REPAIR** or **REPLACE** Warranty
- Seyco's 30 Day Satisfaction Guarantee

"SEYCO offers the only customer support system in the world backed by 35 years experience with the parallel link drive scroll saws"

ASSEMBLE BENCH TOP,
4 POSITION FULL HEIGHT
OR TILT FRONT, YOUR CHOICE



• **NOW AVAILABLE AS BENCH TOP ONLY** •
Now you can experience additional savings by choosing the Seyco ST-21BT bench top assembly only ordering option.



FOLLOW US ON FACEBOOK FOR LAST MINUTE SPECIALS, UPDATES, SPECIAL ANNOUNCEMENTS, EVENTS AND ITEMS OF INTEREST TO SCROLLERS.

Seyco
The Scroll Saw Specialists, INC.
<http://www.seyco.com>

Visit [seyco.com](http://www.seyco.com) or call
800-462-3353



SEYCO SCROLLERS DRILL
Drill precise 90 degree, or other desired angles, accurately without the throat depth restrictions you experience when using a common drill press! Chuck capacity 0-1/8". Complete with Heavy Duty DC power supply and 20 of our most popular bits smaller than 1/16" - 1 Year replacement Warranty.

PIVOTING ARM LED MAGNIFIER WORK LIGHT.

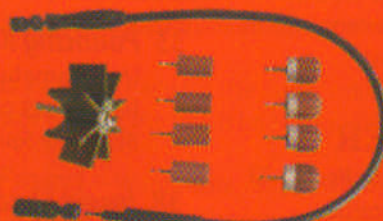
Provides a bright near natural light with 3X magnification. The long pivoting adjustable arm allows perfect positioning for good illumination and magnification. Has an extra large 5" diameter 3 diopter distortion free magnifier glass and 60 bright long life LED's. Natural type lighting and a handy flip up dust cover for the lense when not in use.



The Ultimate Sanding experience



RIS-20 - 1/2HP Dual Flex Drum Sander



RIS-AC Small Accessory Kit
Featuring the
NEW SFW-03 small finger wheel

VISIT - www.seyco.com or call 1-800-462-3353 for current specials.

SCROLLSAW Woodworking & CRAFTS

28



47



45



DEPTS.

- 4 Editor's Note
- 6 Letters
- 9 Coming Features
- 10 Artists To Watch
- 12 News & Notes
- 15 Tips & Techniques
- 18 Product Review
- 70 Ad Directory
- 72 Sawdust

COVER

- Space-Saving Hacks...22
- Colorful Intarsia Bugs...38
- Toys That Walk...28
- Turning Kid's Drawings Into Scrolled Art...52

PROJECTS

- 33 Pouncing Kitten Intarsia**
Use dramatic hardwoods to give this feline a set of natural stripes
By Janette Square
- 38 Insect Shadow Box Segmentation**
Delight a nature-lover with this no-kill collection of colorful bugs
By Emily Lewis

- 47 Classic Toy Helicopter**
Patrol the skies in style with this sleek hardwood flier
By Brad Anderson

- 55 Elegant Ringed Caddy**
Hey, it's teatime somewhere! Use this smooth jar to safely store loose tea bags or leaves
By Carole Rothman

- 64 Animal Kingdom Mega Puzzle**
More than 20 classic creatures make up this interlocking design
By Jaeheon Yun

62



FEATURES

22 *Space-Saving Hacks from a Tiny Workshop*

Learn to pack a table saw, band saw, 200+ tools, and 102 sq. ft. of shelves into an 8x6 shop space
By Stephen Watson

52 *Turning Kids' Drawings into Scroll Saw Art*

Preserve your young artist's work in a medium that won't crumple or tear
By Megan Yardley

62 *The Puzzle Zoo*

South Korean artist Jaeheon Yun turns "families" of animals into massive wooden constructions
By Kaylee Schofield

PATTERNS

28 *Ramp Walker Toys*

This hedgehog and armadillo were meant to race—no wheels required
By Paul Fellay

31 *Squeaky-Clean Word Art*

Make cleaning routines fun with these chic "wash" and "dry" signs
By Anna Hagen and Nikki Hallerich

42 *Any Port In a Storm*

Capture the movement of a turbulent sea in three stunning layers of fretwork
By Fiona Kingdon

45 *Easy Interlocking Unicorns*

This adaptable puzzle can be as big or as small as you'd like
By Dave Van Ess

50 *Compound-Cut Cacti*

Populate your favorite ledge or windowsill with a family of low-maintenance plants
By Sue Mey

61 *Compound-Cut Water Bird*

These elegant egrets will give you no regrets
By Diana Thompson

33



TECHNIQUES

66 *Block-Printed Tees from the Scroll Saw*

Make wearable, custom gifts for as little as \$6 a pop
By the Staff of Scroll Saw Woodworking & Crafts

Find these free extras at

SCROLLSAWER.COM

- **More Inspiration** — Visit our website to see more tiny workshops from around the world.
- **Bonus Video** — Rally for the ramp walkers as they race toward the finish line (page 28).
- **Free Project** — Want more unicorns? Scroll another magical puzzle the whole family will love.



Search for Scroll Saw Woodworking & Crafts on Facebook, Pinterest, and Instagram



New Eyes

While thumbing through this issue, you may notice some new faces: art director Jon's grandchildren, Benny, Henry, and Paisley. Before the camera started rolling on photo shoot day, we pulled the kids aside to prepare them for something; the ramp walker toys (by newcomer Paul Fellay, page 28), we explained, have an *invisible superpower*, which will reveal itself soon. We placed the hedgehog and armadillo on a board propped up with a brick, gave them a nudge, and sure enough, they began walking by themselves—no batteries required!

The looks of glee on our little models' faces were priceless. They gave the creatures names and grew deeply invested in the outcome of the race, cheering or jeering when one pulled ahead of the other. Watching them get excited about the projects on such a personal level was a great reminder of why we do this in the first place—like showing your hometown to a friend from far away. Nothing kindles excitement about a subject like viewing it as if for the first time.

Whether you're considering showing a first-timer the ropes or have just begun scrolling yourself, the projects in this issue are a great place to start. Practice precision in Dave Van Ess' tessellated puzzle project and invite the family to apply their own artistic flair to the pieces (page 45), or try out compound-cutting on six super-simple "hothouse plants" by Sue Mey (page 50). Then, learn how versatile the scroll saw can be with Megan Yardley's tips on turning kids' drawings into wooden wall art (page 52) and a guide from the *SSW&C* staff on making woodblock-printed T-shirts for just a few bucks each (page 66).

For the seasoned scrollers, take a fresh look at your cluttered workshop and show it some love with a slew of space-saving hacks from tiny-workshop expert Stephen Watson (page 22). Challenge yourself with a dizzying nautical fretwork by Fiona Kingdon (page 42), cut one of Diana Thompson's stunningly delicate 3D birds (page 61), or hone your intarsia skills on a recently unearthed feline design by the legendary Lucille Crabtree (page 33). Even if you know most of the tricks in the book, these advanced projects may just have a few more up their sleeves!

As you delve further into the art of woodworking, we hope the articles in this volume foster a childlike glee in you—that, teacher or student, you can say (even after years at the saw) that every project is as exciting as the first.

Happy scrolling!



Kaylee Schofield, Editor
schofield@foxchapelpublishing.com

Let avid scroller Paisley Sy (page 14) inspire you to keep introducing new woodworkers to the fold.



Scroll Saw Woodworking & Crafts Magazine
 903 Square Street, Mount Joy, PA 17552
 Phone: 717-560-4703
editors@scrollsawer.com

Our Mission

To promote scrolling as an artform and an enjoyable pastime—for all ages and all skill levels.

Publisher/CEO	Alan Giagnocavo
Editor	Kaylee Schofield
Editorial Assistant	Hannah Rachel Carroll
Art Director	Jon Deck
Social Media Manager	Stephanie Jordan
Contributing Photographer	Mike Mihalo
Technical Illustrators	Jon Deck, Carolyn Mosher
President/COO	David Miller
Vice President, Sales	Michele Sensenig

Customer Service for Subscribers

Visit scrollsawer.com, call 888-840-8590,
 email customerservice@foxchapelpublishing.com,
 or write *Scroll Saw Woodworking & Crafts*,
 903 Square Street, Mount Joy, PA 17552.

Newsstand Distribution: Comag Marketing Group
 Circulation Consultant: National Publisher Services
 Printed by Fry Communications

©2021 by Fox Chapel Publishing Co. Inc.
 All Rights Reserved. Printed in USA

Subscription Rates in US Dollars

One year	\$29.99
Two years	\$59.98

Canada

One year	\$34.99
Two years	\$69.98

International

One year	\$39.99
Two years	\$79.98

Display Advertising/Classified Ads

For rates and/or a media kit, please call 800-457-9112,
 or e-mail advertising@foxchapelpublishing.com.

Wholesale/Distribution

Scroll Saw Woodworking & Crafts is available to retailers for resale on advantageous terms. Contact Fox Chapel Publishing Sales at sales@foxchapelpublishing.com (800-457-9112 x115).

Identification Statement: *Scroll Saw Woodworking & Crafts*, vol. 22, no. 1 (SPRING 2021) (ISSN#1532-5091) is published quarterly by Fox Chapel Publishing Co. Inc., 903 Square Street, Mount Joy, PA 17552. Periodicals Postage paid at Lancaster, PA and additional mailing offices. POSTMASTER: Send address changes to *Scroll Saw Woodworking & Crafts*, 903 Square Street, Mount Joy, PA 17552.

Publication Mail Agreement #40649125
 Return Undeliverable Canadian Addresses to:
 Station A, PO Box 54, Windsor, ON N9A 6J5
shannon@foxchapelpublishing.com

Scrolling and the use of associated equipment can potentially result in health hazards and injuries. While we cannot impose safety standards in every article, we do ask that you make safety your number one priority. Protect your respiratory system, hearing, vision, and the rest of your body with the proper safety equipment and prudent precautions. Read manuals supplied with your tools. Be aware most accidents occur when you are tired or distracted. And when in doubt, seek advice from professionals on how to maintain your tools.

Note to Professional Copy Services: The publisher grants you permission to make up to ten copies for any purchaser of this magazine who states the copies are for personal use.

Massive Savings on an Industry Leader!

Was \$1049.99

NOW
\$699.99

Contact your local
woodworking dealer or
orderdesk@general.ca

Upper and lower blade guard prevents
hand contact with the blade.

Switching protection device prevents
unintentional start-up.

Thick folded steel construction for
durability and longevity.

Cleaner, faster cuts with a
21" throat capacity and
30° left/45° right head tilting.

Easy blade changes using
finger-operated clamps.

Excalibur
BY GENERAL INTERNATIONAL

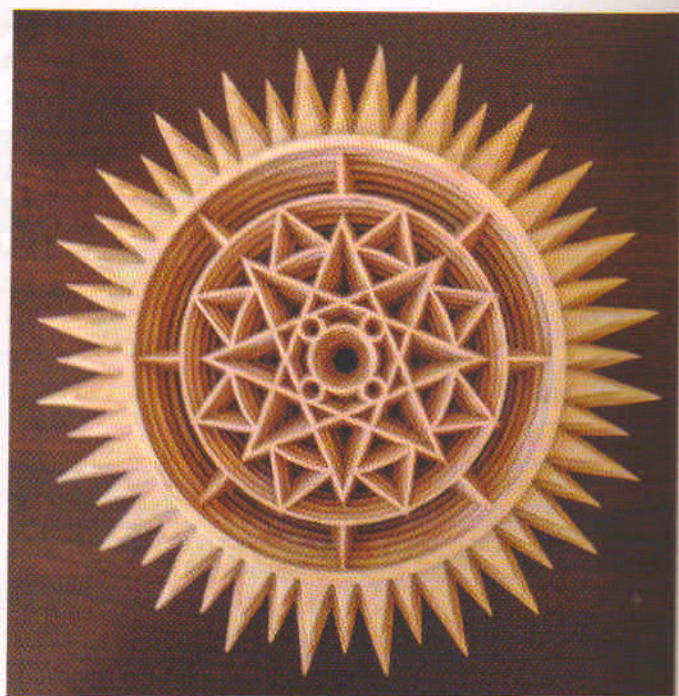
excaliburpowertool.com



**Act quickly, while
supplies last!**

*Excalibur EX-21
with stand and
foot-controlled
switch*

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.



◀ Birds of a Feather

I was excited to see Keith Fenton's owls in the fall issue (#80). My granddaughter is obsessed with owls, so I made quite a few. Thanks for the great projects, *SSW&C!*

Rick Blank, Las Cruces, N.M.

Hotter Than the Sun ▲

Charles Hand's "Geometric Sunburst Fretwork" (from issue #79) was a delightful challenge. I made an oak ring under the rays.

Elsa Apetz, Johnstown, Pa.

Not All Heroes Wear Capes ▶

Having friends and family in the healthcare field, I felt the need to thank all the nurses, doctors, and hospital staff on the front lines of the pandemic. So, I came across this piece on the internet and added my own perspective to donate it to our local hospital.

Allen Hendrickson, Osceola, Iowa



We have what you need to finish your scroll project



Scroll work by Sterling Davis - NC



Four Locations in North Carolina: Asheville, Hickory, Cary and Winston-Salem



KLINGSPOR'S WOODWORKING SHOP



"Quality Tools and Supplies for the Woodworker"



800-228-0000 • www.woodworkingshop.com



Since 1929 Still made in the USA

HAWK Precision Scroll Saws



Versatility in blade selection

We stock **over 70 blades** to fit your every need



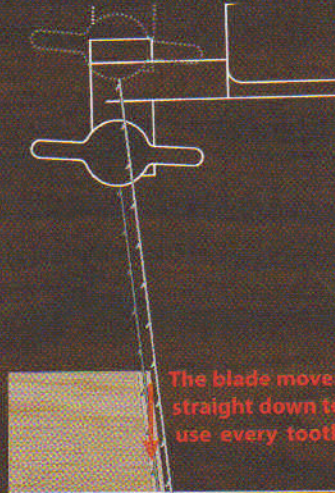
Choose from a variety of tooth styles, spacings, widths, and materials to optimize your scrolling

Go online to see more **HAWK** advantages!

Bushton Manufacturing, LLC
P.O. Box 127, 319 S Main St. Bushton, KS 67427
620-562-3557 www.hawkwoodworkingtools.com

The HAWK Advantage #2

Adjustable blade angle for fast cuts or tight turns



Versatility in blade alignment

Adjust the blade at an angle for:

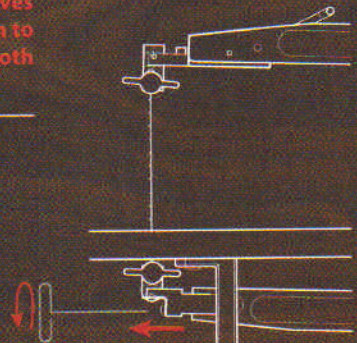
- Fast, efficient cutting
- Clearing dust & chips

Every stroke brings the most out of the blade for a highly efficient cutting motion

The blade moves straight down to use every tooth

Adjust the blade vertically for:

- High precision
- Small turning radius
- Narrow cutting width





Tiny Tweets ▲

I finally finished these miniature birdhouse ornaments by Diana Thompson. I cut them using #5 and #7 skip-tooth blades.

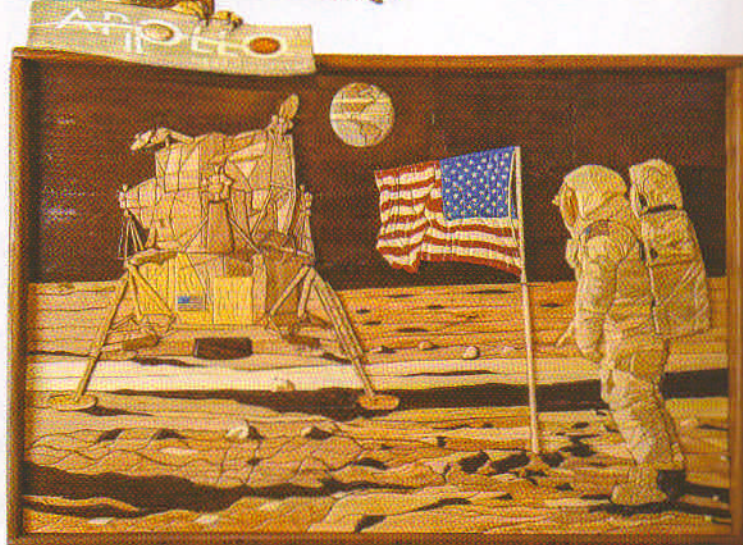
Denny Knappen, Dayton, Tenn.

FURTHER READING

3-D Patterns for the Scroll Saw (Revised Edition)

By Diana Thompson

Item 8480. Available for \$14.99 plus S&H (parcel post) from Fox Chapel Publishing, foxchapelpublishing.com, 800-457-9112, or your local retailer.



One Small Step ▲

I have been working on this piece by Judy Gale Roberts (from issue #77) since March. I added her banner and eagle to go on top.

Dick Lassman,

Boynton Beach, Fla.



Fruitful ▲

I decided to tackle this beautiful project because I'm always up for a challenge. The pattern is by Anatoly Obelets and was featured in the fall issue (#80). I used walnut, poplar, bloodwood, canarywood, and maple for my version.

Diane Poirier, New Brunswick, Canada



Purr-fect Puzzles ▲

I decided to try my hand at puzzles today. I saw these designs (from issue #66) by Eric Van Malderen on the SSW&C website, featured as the spring newsletter project. I'm pretty happy with how they turned out.

Barbara-Lynn Smith, Brooklet, Ga.



Pégas

Genuine Swiss Quality
Scroll Saws & Blades
www.dndsawbladesonline.com



40 Species of Exotic & Domestic Hardwoods

From 1/16" TO 1-1/2" Thick

View woods at www.dndhardwoodsonline.com.

12 Species of Plywood. View plywood at www.dndplywoodonline.com

FOR PRICE LIST CALL 610-381-2286

FAX: 610-381-5155



D & D Woodcrafts

654 Blue Ridge, Saylorsburg, PA 18353-8138

COMING FEATURES

Look for these projects
in our summer issue!

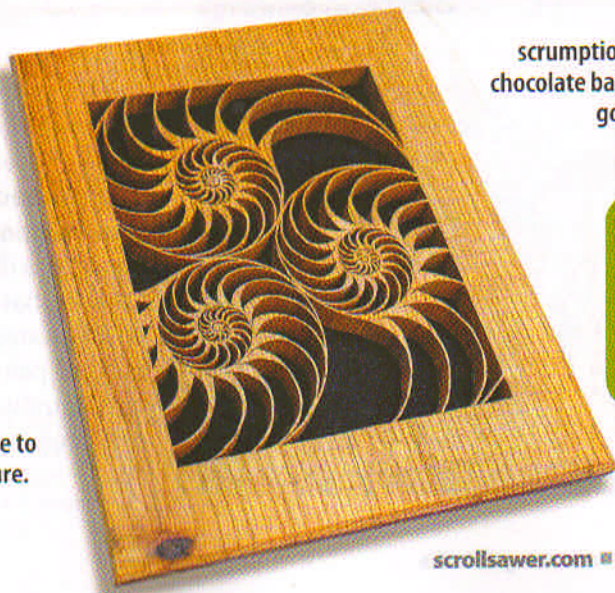


Shape, burn, and paint a crocodile that could give Captain Hook the willies!

A fretwork trio of delicate shells is sure to be an instant treasure.



Indulge in some scrumptious scrolling with a chocolate bar puzzle that looks good enough to eat!



Look for the Fox Hunt Winners on Page 70!





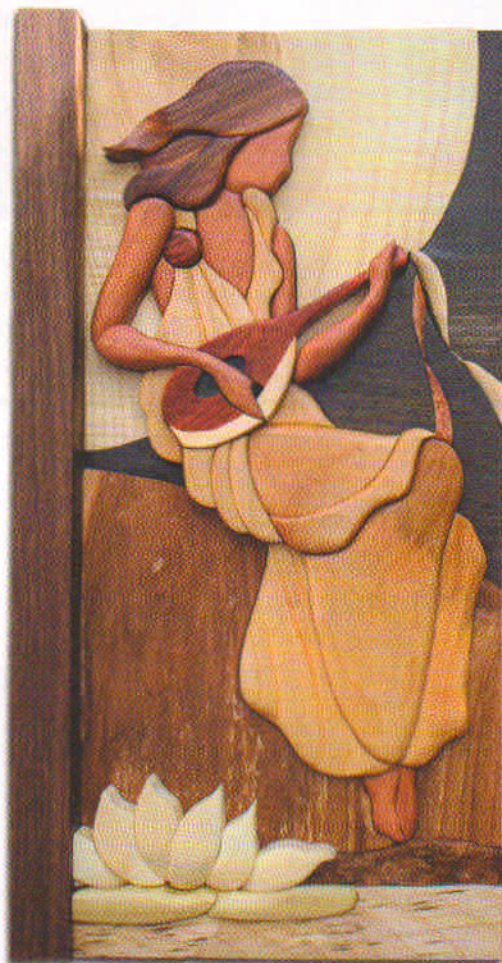
Rolf Beuttenmuller *Bellport, N.Y.*

A 1922 painting by Walter William Schaffner, one of Rolf Beuttenmuller's distant relations, inspired this piece. Rolf, a long-time contributor to *SSW&C*, decided the scene would look great as intarsia. It took him more than 50 hours to select, cut, fit, and shape the pieces. He used *lignum vitae*, also known as ironwood, to bring the foliage in the scene to life. For more of Rolf's work, turn to page 28.



Angelika Neth *Oerlinghausen, Germany*

Angelika Neth started scrolling in 2007 after unwrapping a saw from her husband on her birthday. At first, she scrolled puzzles and small decorative objects. Then she discovered intarsia. "I'm addicted," she said. Angelika enjoys the precise cutting necessary for her chosen projects, like this design from a book of stained glass patterns by Jody and Delina Sheppard. To see more of Angelika's work, visit [@hobbyholzwerkerin](#) on Instagram.



Lauren Bedard *Nanoose Bay, Canada*

Lauren Bedard discovered a love for woodworking six years ago after a difficult pregnancy. Her growing brand, Wild Wood Creative, has given her an outlet, a space to heal, and the ability to stay home with her three small children. What began as hand-painted signs on pallet wood has evolved into fully customizable scroll sawn home decor and logos. To see more of Lauren's work, visit [@wild.wood.creative](#) on Instagram.



Photo by Island Moments Photography



Meleah Gabhart Hillsborough, N.C.

Meleah Gabhart's art is inspired by the beauty of wood. Her murals and sculptures, made of discarded scraps from mills, furniture makers, and fallen trees, capture a sense of movement. Meleah considers the fibers and pigment of each piece of wood before placing it within one of her artworks. "I give material that already has a history new life," she said. To see more of Meleah's work, visit wescover.com/creator/meleah-gabhart-art.



Candace Lipischak Otterburne, Canada

Candace Lipischak's father, Larry, is part of the Métis indigenous tribe. Being a seasoned craftsman, he made Candace a pair of earrings out of moose antler he had saved for 33 years. From the moment he taught Candace how to make her own antler art, she was hooked. The duo now creates together for a living. Their business, Fat Daug (short for father, daughter), is fueled by passion and culture. "Our organic jewelry is a way to thank the animal for its gift of life—to have its spirit live on through the pieces that we create," she said. See more of Candace's work @fat_daug on Instagram.



Kayla Cooper Knoxville, Tenn.

When Kayla Cooper first started scrolling, she only intended to make gifts for her family. After a few sawdust sessions, however, she quickly developed a passion for it. She's now a full-time woodworker, specializing in wooden signs, custom pen blanks, and scroll sawn pieces. "The first trivet I made took me *hours*," she said. "Now, they're a breeze." See more of Kayla's work on Instagram @thecraftycooper.

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 Artists to Watch, *Scroll Saw Woodworking & Crafts*, 903 Square Street, Mount Joy, PA 17552 or e-mail editors@scrollsawer.com.

Packing the Gym

PE teacher scrolls every student's name during the lockdown

By Hannah Rachel Carroll

When businesses and schools shut down last spring, elementary school teacher John “Jack” Magiera headed straight to his workshop. With extra time on his hands, he figured he’d put it to good use. He started scrolling name plaques for just his fifth-grade students, to give away as graduation gifts. But by the end of the school year, Jack had scrolled 423 names: one for each student in the school.

“I’m terrible with commitment—so I would never have agreed to this up front,” Jack said with a laugh. “Each time they extended the lockdown, I thought, *Well, I guess I’ll do another grade.*”

Jack teaches physical education at Gates Chili Elementary School in Rochester, N.Y. A self-proclaimed woodworking enthusiast, Jack has used his scroll saw for the last 30 years to scroll name plaques for his friends and loved ones. When the pandemic erupted in March, he did what he does best—he began scrolling names.

What started out as something “really cool” to do for the kids morphed into one of the most unpredictable times of Jack’s life. Each morning, coffee cup in hand, he traced the names off a class roster. He spent the rest of the day juggling Zoom meetings, conference calls, and teaching students online. A few hours on the weekends were reserved for cutting.

As the project evolved, there were times when Jack felt like giving up (his scroll saw even broke halfway through), but each milestone eclipsed the setbacks and doubt. While Jack was purchasing a stack of pine to finish the names in the second grade, a manager at Home Depot® caught wind of his endeavor and donated the wood to him for free.

“That really solidified things for me,” he said. “I think my mind was still wrestling with the idea of actually finishing. But I knew I had to keep going. This was now bigger than me.”



The name plaques are about 4" (10.2cm) tall and made of pine.

With the end in sight, Jack spent six hours a day for three days sanding the plaques. Then he and his wife set them up on the gym floor, grouped by class and grade. Eventually, the plaques were sent home to students, along with books and schoolwork from other teachers. Dozens of parents sent Jack photos of their child’s name plaque—decorated in bright paints, glitter, and markers—thanking him for the unexpected gift, which also doubled as a fun and thoughtful craft.

Jack and his family guess the project took him a total of 250 hours to complete. And despite the challenges, he’d do it again in a heartbeat.

“This will probably be the hardest year of their lives,” he said. “If there was any way that I could help make it a little brighter, I would.”

For more information, e-mail Jack at John_Magiera@gateschili.org.



Relynn Breedlove, age 8, shows off her painted name plaque.

Mike's Workshop

Your source for

Flying Dutchman®



FREE Economy shipping available on most U.S. orders placed on our web site!!



Assortment Pack

Contains 1 doz. each of UR5, SR5, PS5, P5, and NS3 - \$18.50

Drill Bits

available sizes #47 - #71.



Our Most Popular Styles of Scroll Saw Blades

Ultra Reverse

available in sizes

2/0, 1, 3, 5, 7, 9

\$3.50 / doz.

\$19.50 / 6 doz.

\$33.60 / 12 doz.

New Spiral

available in sizes

3/0, 2/0, 1, 3, 5

\$3.80 / doz.

\$21.90 / 6 doz.

\$37.92 / 12 doz.

Mix and match in same style of blade for quantity discount.

Also available: Spring Hand Drill and Mini Drill Chuck with Collets.

Mike's Workshop * www.mikesworkshop.com * 503-760-1614

Why WUDPAL?

It's the first multi-vendor website specifically for woodworking plans.



VENDORS

- ✓ Complete freedom in the plans you post—Crafts, Outdoor Projects, Furniture, etc.
- ✓ Post instantly—no review or censorship.
- ✓ Submit last minute seasonal projects. No publishing delays. No deadlines.
- ✓ Build your store, and post as many plans as you'd like—all FREE.
- ✓ Remove projects when you decide. Post once & receive orders endlessly.

Visit wudpal.com to learn more and see how exciting this new website is for all those that love the art of woodworking!

BUILDERS

- ✓ Shop a wide variety of projects from many vendors.
- ✓ Find the latest project postings on the Home Page.
- ✓ Shop for projects by specific categories.
- ✓ Instantly download project plans.
- ✓ Shop for project plans 24/7.
- ✓ Many FREE project plans! All are nominally priced.
- ✓ Access your vendor before & during your build if you need help or have questions.

This Kid Can Scroll

This nine-year-old has been scrolling since preschool—and now she's teaching others, too

By Kaylee Schofield



Paisley proudly displays some of her scrolled creations.

For nine-year-old Paisley Sy, the urge to create started early—and it's no wonder. Her parents, Bethany and Nick, run the popular DIY blog Reality Daydream, which chronicles the adventures (and misadventures) of renovating a historic home in small-town Iowa. Her twin sister, Della, dabbles in crochet and macramé. Cypress, the youngest, has even been known to assist with a painting project or two.

So, it made sense that when Bethany first showed Paisley the scroll saw six years ago, she was immediately hooked. They started with supervised lessons, and Paisley quickly gained confidence in her skills. She has been scrolling on her own since age five.

"I like the feeling of a blade cutting through wood," Paisley said. "It's cool to see a project finished; I get really proud, because I've worked so hard on it."

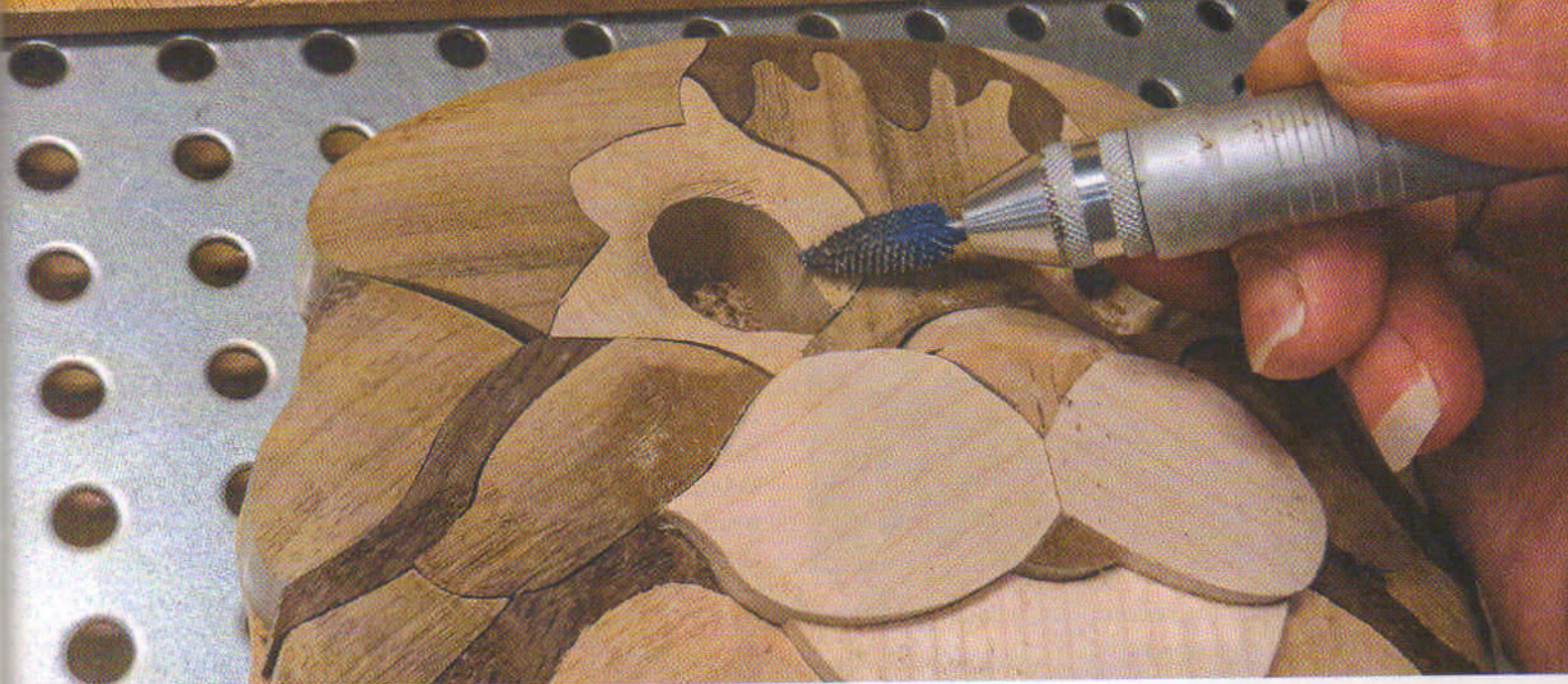
At first, Paisley gravitated toward simple animal plaques (dogs are her preferred subject), but she soon branched out. Last year, she opened her own Etsy shop—Projects by Paisley—home to an assortment of holiday decorations and custom signs, which she cuts and finishes entirely by herself.

"Paisley's always had an entrepreneurial spirit," Bethany said. "She originally wanted to run a lemonade stand, but when I told her about Etsy, she was in. She has a Jet scroll saw in her bedroom and sometimes I hear her scrolling at six in the morning."

Paisley has also started posting beginner woodworking tutorials on the Reality Daydream site, with the specific goal of bringing in newcomers to the craft. And when asked what advice she'd give to another young person who's interested but nervous, she said with gusto: "Scrolling is safe and a lot of fun—and once you get the hang of it, you won't be scared anymore."

Find Paisley Sy on Etsy @projectsbypaisley. Find Bethany and Nick's DIY projects at realitydaydream.com.

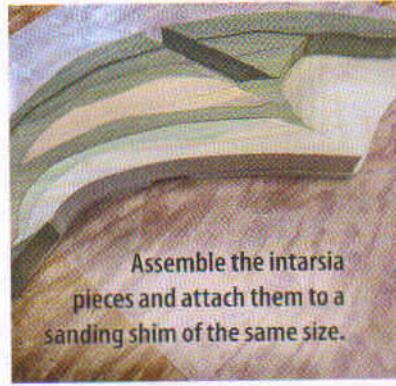
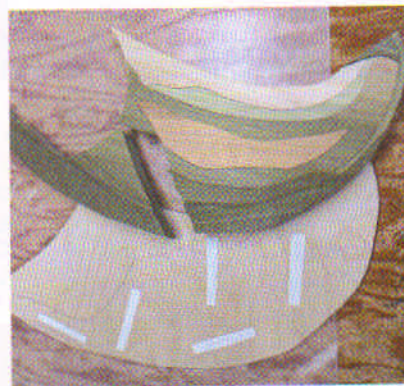


ASK THE EXPERT:**Using Sanding Shims and Risers in Intarsia****Heed these helpful tips to elevate your work in more ways than one***By Janette Square*

Understanding how and when to use sanding shims and risers is useful when creating intarsia projects. Sanding shims allow you to sand multiple pieces at the same time, and risers elevate entire areas or individual pieces to create dimension and depth. Utilizing these techniques (when appropriate) can take your work to the next level—literally.

Sanding Shims

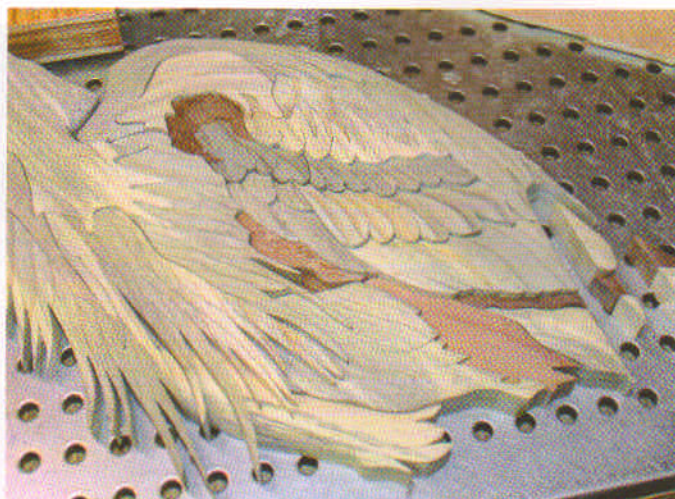
Sanding shims help you sand intarsia pieces. They are usually made of plywood or tempered hardboard, at least ¼" (6mm) thick. Their purpose is to hold multiple pieces of intarsia at the same time so that you can sand them into a uniform,



Assemble the intarsia pieces and attach them to a sanding shim of the same size.

cohesive shape, rather than attempt to individually shape them in proportion to one another.

Making a shim is easy. Simply assemble the pieces you want to shape together onto the wood, trace the outline, and cut it. Attach the pieces to the newly cut sanding shim and you're ready to go. Double-sided tape and sensitive turner's tape are good options. You want a tape that will hold the pieces securely. You can pop them off with a paring knife when you're done.



Sanding shims are usually made of plywood or tempered hardboard, at least ¼" (6mm) thick.

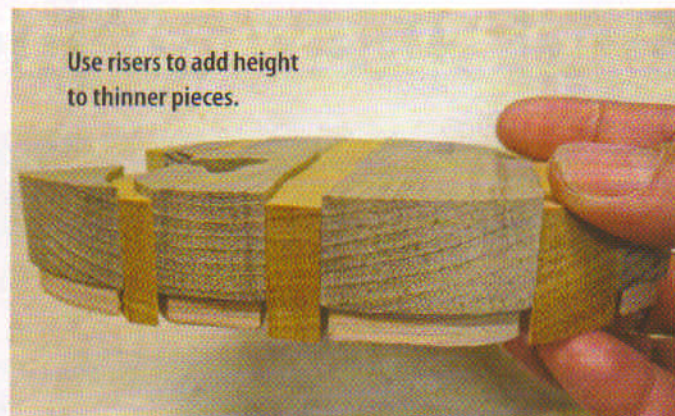
Once the rough shaping is complete, you can go back over individual pieces and refine them. I have found this most useful when shaping birds and feathers. I will rough-shape the entire body or wing as one piece using a sanding shim, then go back to detail the individual feathers with their own shape. By doing this, I keep the entire contour of this area consistent, yet the individual feathers still stand out on their own.

Sanding shims can also be useful when you have very small pieces to shape. By securing the small piece onto a larger scrap piece, you can more safely sand by keeping your fingers out of the way. Just be sure to secure the piece well, or you may end up hunting for it behind your sander. Generally, it's a good idea to do multiple pieces at once for added stability.

Risers

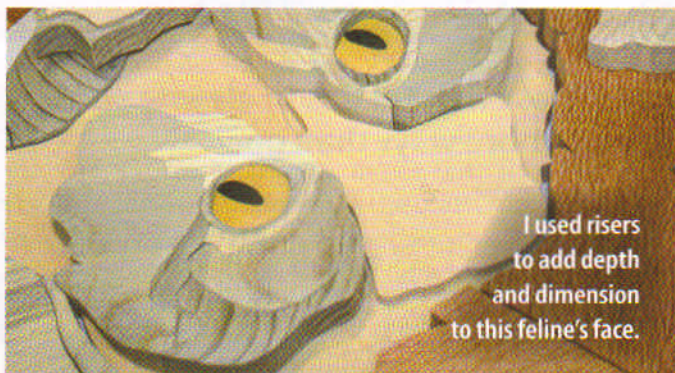
Intarsia is meant to be a dimensional art form. Using thicker or thinner wood is one way to achieve this dimension, but not everyone has assorted thicknesses of wood on hand. That's where risers come in. Risers are simply scrap pieces of wood used to artificially elevate different areas or individual pieces within an intarsia project.

The only limit on riser thickness is the surrounding pieces. You never want the riser to sit higher than the lowest adjacent piece; otherwise you will create a gap and the piece won't stay where it belongs. Always leave at least ⅛" (3mm) of the actual piece lower than the surrounding pieces. You need to be able to glue the pieces to each other.

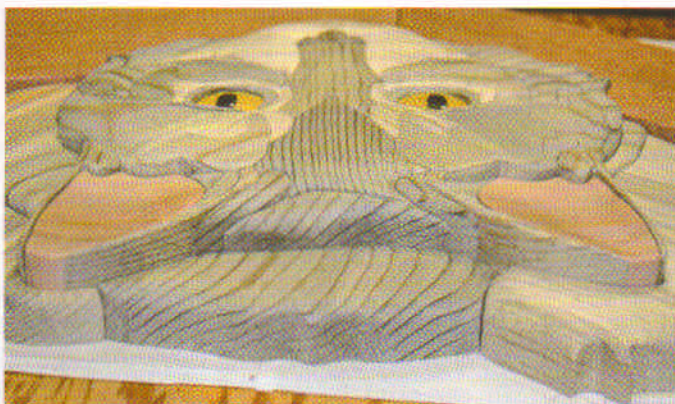


Use risers to add height to thinner pieces.

In this example, I was making a striped fish with 1" (2.5cm)-thick yellowheart and ¾" (1.9cm)-thick blue pine. Since I wanted the fish to look fuller, I added risers to each of the blue pine pieces, and then glued the yellow and blue pieces together before shaping. I could have also thinned the yellowheart down to meet the blue pine, but it would have resulted in a thinner, less dimensional fish. This also gave me more to work with while shaping.



I used risers to add depth and dimension to this feline's face.



To make a riser, trace your cut-out piece onto a piece of scrap plywood or tempered hardboard of desired thickness. Cut within the traced line; you want the riser to be slightly smaller than the actual piece. *Note: I recommend cutting all of the risers you plan to use first.* Sand off any fuzzies so that the riser sits flat. Test-fit and make adjustments as needed. You can always add more if you want additional dimension. Once satisfied with the varying heights, glue the risers onto the backs of the pieces. Depending on the size of your project, you may also want to transfer the piece numbers to the bottom of the risers to keep track of your work.



Track your progress by numbering the backs of your intarsia pieces.

While creating this dragon designed by Kenn Bennett, I added risers to parts of the face and horns. They added height and gave the piece a more sculpted look overall.

If at all possible, do not use risers along the edge of a project, as they will show. If it's unavoidable, the best solution is to either use a thicker piece of wood or to create a riser by using the same type of wood as the piece. If the piece is $\frac{3}{4}$ " (1.9cm) thick and you need it to be $1\frac{1}{4}$ " (3.2cm) thick, either glue two thicknesses of wood together and cut the piece from that, or cut your regular piece and cut a second from the same type of wood—preferably from the same board—so the colors match. Make sure both pieces sit with the grain facing the same way. Glue the pieces together and sand the visible edges. You may see a thin line where they join, but it shouldn't be overly noticeable. If you use this method, I recommend clamping the pieces together until the glue dries to avoid any gaps.

Janette Square lives in Yachats, on the Oregon coast. For more of Janette's work, visit her website at square-designs.com.



Elevate facial details with a few well-placed risers.



Must-Have Tool Set

FOR THE CHILD IN YOUR LIFE

Sturdy, kid-safe 4-in-1 woodworking set offers endless fun for under \$120

By Jon Deck, Magazine Art Director

Lift the lid of PLAYmake's 4in1 Workshop set, and you'll find an array of bright plastic parts that appear too toylike to be used in a workshop. Once assembled, though, it surprises with its rugged capabilities.

Powered by a 12-volt motor, the set's lathe, sander, jigsaw, and drill press can produce endless wooden shapes from softwood dowels and plywood blanks. With adult supervision, according to the package, children as young as four can safely operate these woodworking tools.

The tools are anchored by a pair of heavy plastic bases that provide a solid track for mounting and adjusting the motorized components. I secured the bases to a piece of ¾" (1.9cm) particleboard using the screws included in the set. PLAYmake provides an illustrated wordless manual that gives easy and ample instructions for configuring each tool. The motor and components are brilliantly designed to serve all four tools.



My grandson, Ben, gives the lathe a spin.

*The PLAYmake 4in1 Workshop
Manufactured in Austria by The Cool Tool.
\$109 + S&H
4in1workshop.com*



Contents:

- 2 machine beds
- Tailstock
- Motor drive unit
- Jigsaw
- Drill
- Drilling and sanding table
- Sanding disc
- Tool rest
- 12V safety adaptor
- Screwdriver
- Gouge
- Detailed instructions, plans, and suggestions
- Wood for turning and sawing
- Child-sized safety goggles

ON THE WEB Find a video of kids using all four PLAYmake tools.
scrollsawer.com



Jigsaw

The jigsaw performs exactly like a scroll saw, and can even cut inside frets. But there's an added bonus. The short strokes of the vibrating blade make smooth cuts in wood but *will not injure skin*. Cuts are a bit slower, but patience in cutting is a great lesson for budding scrollers.



Lathe

The lathe was exceptional. Once running, it easily turned smooth ribbons and cut sharp and rounded details into the spindle. The motor held its speed and only bogged slightly when pushed hard.



Sander

The rotary sander sands fast and clean—just like the real thing. Young woodworkers can smooth the edges of their jigsaw creations, and learn how to perfect their cuts by sanding up to the line of a pattern.



Drill Press

The drill press worked effectively despite being slightly unintuitive—as it doesn't mimic the action of real shop tools as closely as the others do. Twisting a knob to raise and lower the bit feels a bit unnatural, but given the scale of the machine, a hard crank might have been overkill.

Conclusion

I brought in my nine-year-old grandson, Benjamin, to try his hand at the lathe, a tool that he hasn't seen in my home workshop. I wondered if—at his ripe old age—he might find it boring. He thoroughly enjoyed it, describing the setup as “awesome” and “a lot of fun.”

If you've got a kid in your life that could benefit from a little sawdust, this is a great and safe way to bond in your workshop. It won't be long before they'll be making small projects. And, the PLAYmake has an amazing five-year warranty on all parts, except expendables. The 4in1 Workshop could last until your child is using *your* tools. What other toy can compare to that?

The PLAYmake 4in1 Workshop, accessories, and replacements for parts and expendables are available through many online retailers. The Cool Tool also offers the Unimat 1 Classic Woodworking Kit for model-makers.

Replacing Expendables

The workshop set comes with a modest supply of dowels, plywood blanks, and sanding discs. Kids on a learning curve can cut through a pile of these in a short time.

PLAYmake offers a service set of 10 jigsaw blades, 10 sanding discs, and various lathe parts for \$16.95. There's also an available package of 12 thin and five thick dowel blanks for \$19.95. I recommend the service set, if for nothing more than the jigsaw blades.

These low-cost options make it easy to keep cranking out projects without breaking a sweat or the bank.



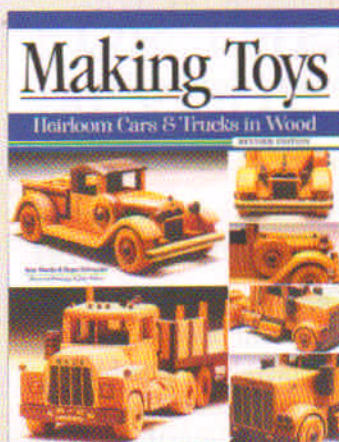
The PLAYmake 4in1 Workshop has received the Tillywig Toy Award for excellence.

Spring Shopping Guide

20% OFF Your Entire Purchase!

Use coupon code SSW20 when ordering
Offer expires 4/30/2021

NEW Titles for Your Scroll Saw and Woodworking Library!



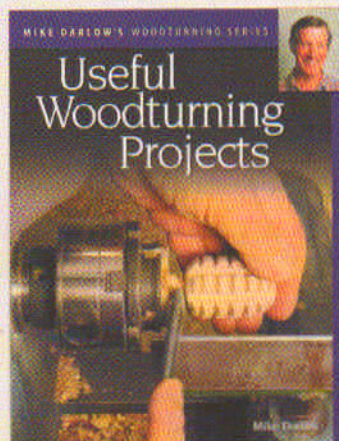
Making Toys, Revised Edition

Heirloom Cars & Trucks in Wood

By Sam Martin and Roger Schroeder

A complete guide to making wooden toys and trucks. Learn from skilled woodworkers Sam Martin and Roger Schroeder as they walk you through a featured Peterbilt truck tractor project with step-by-step instructions and easy-to-follow photography. Once completed, detailed woodworking plans for other vintage cars – including a Ford Model A pickup, a 1932 Buick sedan, a flatbed trailer, and a van trailer – are also provided for you to accomplish on your own! Each scroll saw and woodworking project contains measured drawings and parts lists.

Paperback
112 pages • 8.5" x 11"
Code: 01166 • \$19.99



Mike Darlow's Woodturning Series: Useful Woodturning Projects

By Mike Darlow

An inspiring guide to over 20 useful woodturning projects! Featuring 14 project sections – most of which contain multiple variations – turn frames, spinning tops, both antique and modern chess sets, a pepper grinder, backscratcher, and more. Also included are step-by-step instructions, helpful photography and diagrams, dimensioned scale drawings, a detailed introduction to woodturning, and an informative section on small tools.

Paperback
208 pages • 8.5" x 11"
Code: 01579 • \$24.99



Pyrography Special Edition

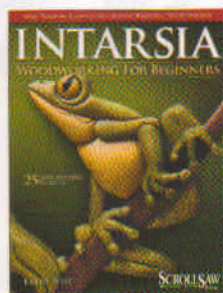
25 Skill-Building Projects & Patterns featuring Burning for Beginners

By Editors of *Pyrography* magazine

Filled with 25 step-by-step woodburning projects for artists of any skill level, *Pyrography* is sure to inspire! Also included are technique lessons, practice exercises for beginners, full-size pyrography patterns, astonishing artist profiles, product reviews, safety and cleaning tips, and so much more. From burning a dynamic steam engine train and personalized pet photos to making a dream catcher clock, realistic mountain lion portrait, and several other exciting projects, this jam-packed guide is sure to turn up the heat on your pyrography skillset!

Paperback
112 pages • 8.5" x 11"
Code: 01562 • \$12.99

Best-Sellers to Build Your Skills!



Intarsia Woodworking for Beginners

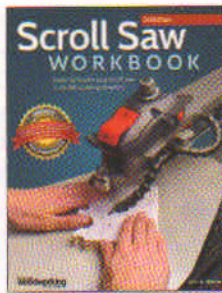
Skill-Building Lessons for Creating Beautiful Wood Mosaics: 25

Skill-Building Projects

By Kathy Wise

Learn the art of intarsia with celebrated artist and instructor Kathy Wise in this skill building guidebook filled with step-by-step instructions, basic lessons and concepts, and helpful techniques.

Paperback
128 pages • 8.5" x 11"
Code: 4420 • \$19.95



Scroll Saw Workbook, 3rd Edition

Learn to Master Your Scroll Saw in 25

Skill-Building Chapters

By John A. Nelson

Use this ultimate beginner's scroll saw guide to hone your scrolling skills to perfection. You'll find everything you need to know here, boiled down to the best and simplest methods. Practice a specific technique in each of 25 skill-building chapters, and then use that skill to make an attractive project.

Paperback
96 pages • 8.5" x 11"
Code: 8497 • \$16.99



Big Book of Scroll Saw Woodworking

More Than 60 Projects and Techniques for Fretwork, Intarsia & Other Scroll Saw Crafts

By Editors of *Scroll Saw Woodworking & Crafts*
Get inspired by this big collection of projects for fretwork, intarsia, and other scroll saw crafts. Includes detailed patterns, expert step-by-step instructions and crisp photographs, guaranteed to spur your creativity.

Paperback
192 pages • 8.5" x 11"
Code: 4260 • \$24.95

100% SATISFACTION GUARANTEE

If, for any reason, at any time, you are less than satisfied with any Fox Chapel Publishing product, simply return it and we will gladly exchange it or refund the full purchase amount, whichever you prefer.

ORDER TODAY!

800-457-9112 • FoxChapelPublishing.com

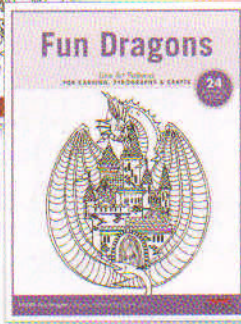
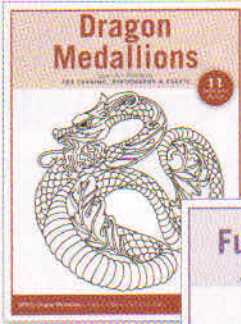
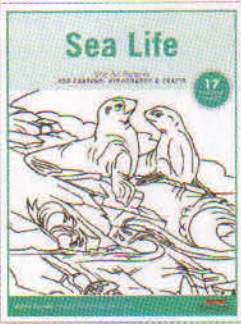
Visit us on



Pattern Packs

for Your Next Project!

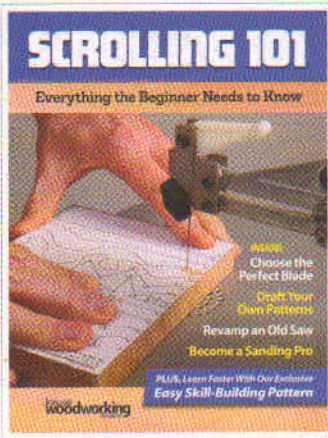
Always have something to create with these thematic collections of classic Lora S. Irish patterns.



- Sea Life • #00244 • \$12.00
- Dragon Medallions • #00923 • \$12.00
- Fun Dragons • #00282 • \$12.00
- Mythical Beasts • #00947 • \$12.00
- Butterflies and Insects • #00909 • \$12.00

Over a dozen patterns in each pack!

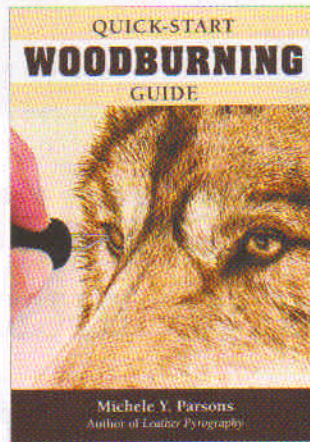
Must-Have Guides to Keep Close By!



Scrolling 101

Everything the Beginner Needs to Know
By Editors of *Scroll Saw Woodworking & Crafts*
Pamphlet • 20 pages • 8.5" x 11"
Code: 01364 • \$6.99

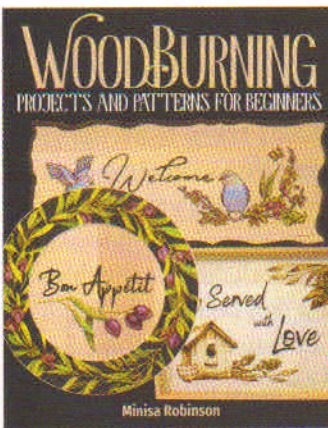
- A basic introduction to learning the fundamentals of scroll sawing for beginners
- Includes easy-to-understand articles on the scroll saw basics, from choosing blades and sanding to adapting patterns and making the most out of an inexpensive saw
- Features helpful charts, photography, and illustrations, 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



Quick-Start Woodburning Guide

By Michele Y. Parsons
Paperback • 64 pages • 5" x 7"
Code: 00848 • \$9.99

- A small-format guide that covers the basics of pyrography
- 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*



Woodburning Projects and Patterns for Beginners

By Minisa Robinson
Paperback • 144 pages • 8" x 10"
Code: 00855 • \$19.99

- A complete overview and introduction into the hobby of pyrography intended for beginners
- 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
- Pyrography artist Minisa Robinson is also the author of *Woodburning Realistic Animals* and has contributed to *Woodcarving Illustrated* and *Pyrography* magazine

Build Your **Scroll Saw Library**
Archive issues only **\$2 each!**
(7 minimum)

Visit FoxChapelPublishing.com

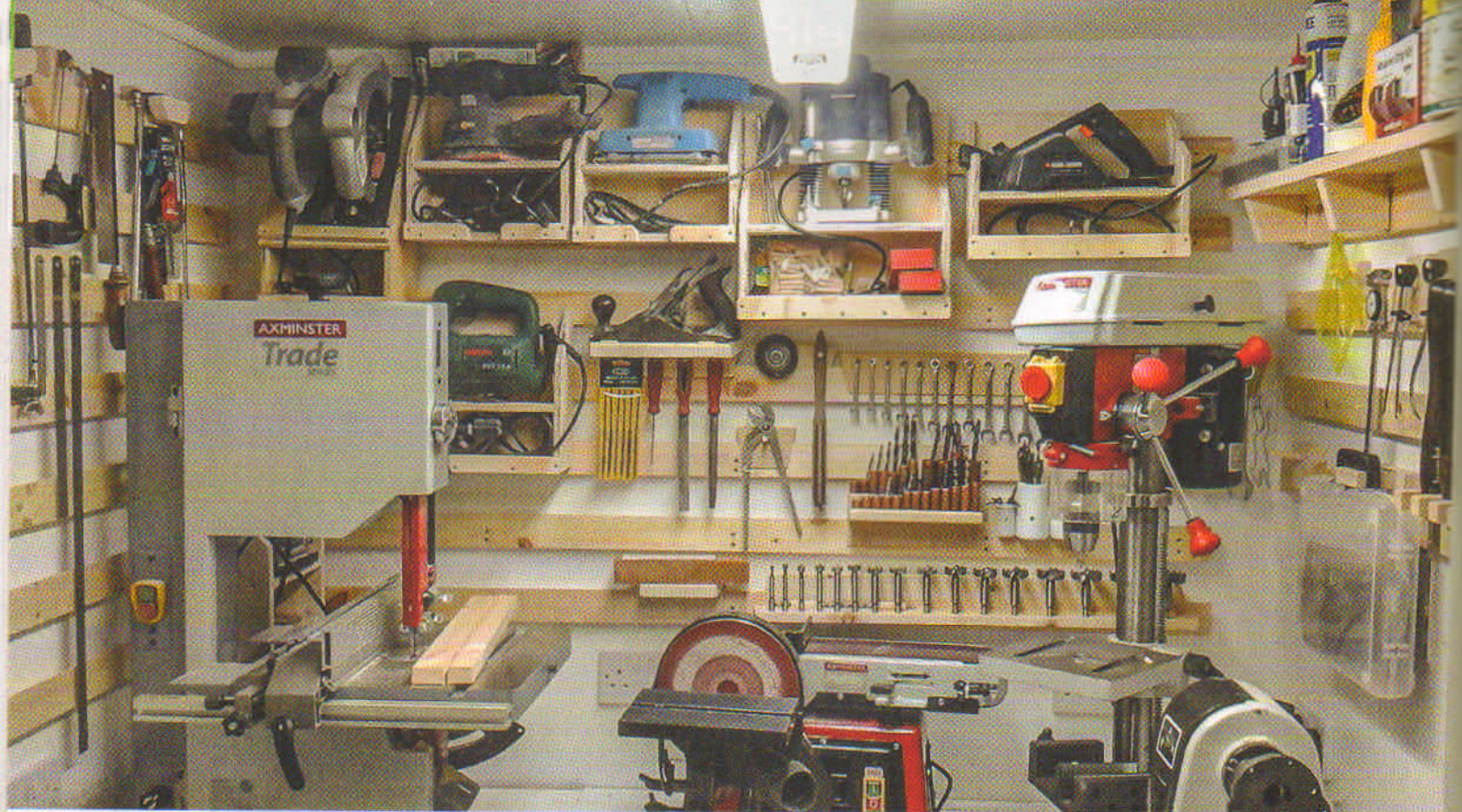


ORDER TODAY! 800-457-9112
FoxChapelPublishing.com

By Phone: 800-457-9112 • Direct: 717-560-4703
Email: customerservice@foxchapelpublishing.com
Online at: FoxChapelPublishing.com
By Mail: Send Check or Money Order to
Fox Chapel Publishing
903 Square Street
Mount Joy, PA 17552

# Item	Shipping Rate
1 Item	\$3.99
Each Additional	.99

Canadian & International Orders - please email info@foxchapelpublishing.com or visit our website for actual shipping costs.

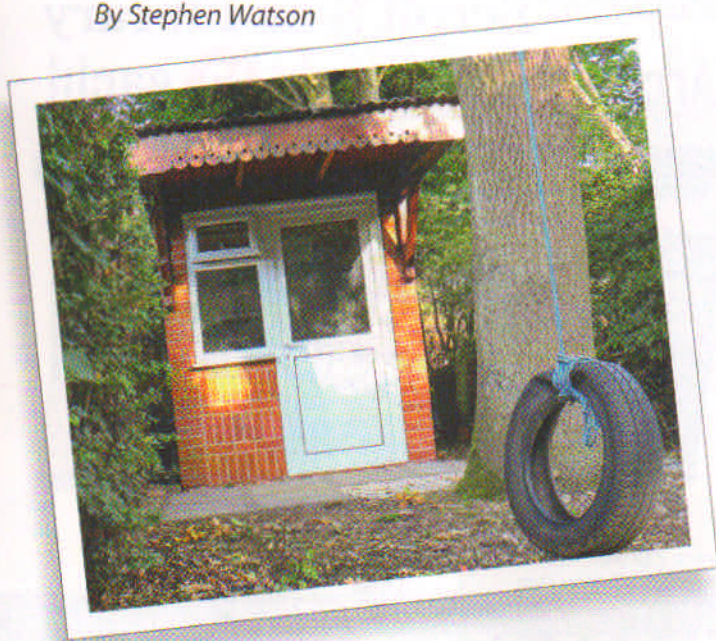


Space-Saving Hacks

FROM A TINY WORKSHOP

Learn to pack a table saw, band saw, 200+ tools, and 102 sq. ft. of shelves into an 8x6 shop space

By Stephen Watson



At first, utilizing a space smaller than the average bed of a CNC table seemed a far-fetched notion. However, when I turned that problem into a challenge, converting the ruined and roofless outbuilding in my tiny garden into a workshop seemed achievable. Originally, I'd just wanted a space that would allow me to tinker with wood, but once I started, the project grew legs. Now, four years later—after leaning heavily on ideas taken from the tiny house movement—I've turned this “tiny workshop” notion into a working concept. (It also functions as the film set for my popular YouTube channel.)

Some people scoff at the size—my workshop really does measure 8x6—but when they see what can be achieved there, ridicule turns to amazement. Through ingenious organization, top-notch storage, and custom-built facilities, it is indeed a fully fitted workshop comprising a bench, table saw, band saw, scroll saw, drill press, sanding station, lunch box planer, lathe, compressor, a wealth of power tools, and a custom dust extraction system. Some of the tips, techniques, and hacks I picked up along the way have proven useful to others blessed with larger workshops, so I welcome the opportunity to share some of them here.

Making a Game Plan

Space really is the final frontier—and no matter how big your workshop is, it never seems big enough. Even though most of the familiar methods of workshop planning and layout go out the window when applied to such a small space, I still needed to take into account the operating area around each machine and the space the material requires when being worked on. As I operate only one piece of equipment at a time, it made sense to overlap these workspaces when possible to squeeze in the machinery—a procedure that can optimize space in any size of workshop. The shaded areas in the illustration denote the operational space required for each machine. Overlapping these areas minimizes wasted space.

Although having the larger machines on casters does allow me to pull them to the center of the workshop to maximize their use, I still wanted to operate them in situ for the smaller tasks. A few hours spent with graph paper and sketches revealed a) which little-used machines would need to be stored under the bench to be brought out when required, b) how often and for which tasks the machines would need to be moved, and c) how much operating space I could reasonably overlap. This exercise indicated how best to organize my original layout and how compact it could be without compromising safety and efficiency. After an initial game of musical chairs during its design, my layout has changed little over the years.

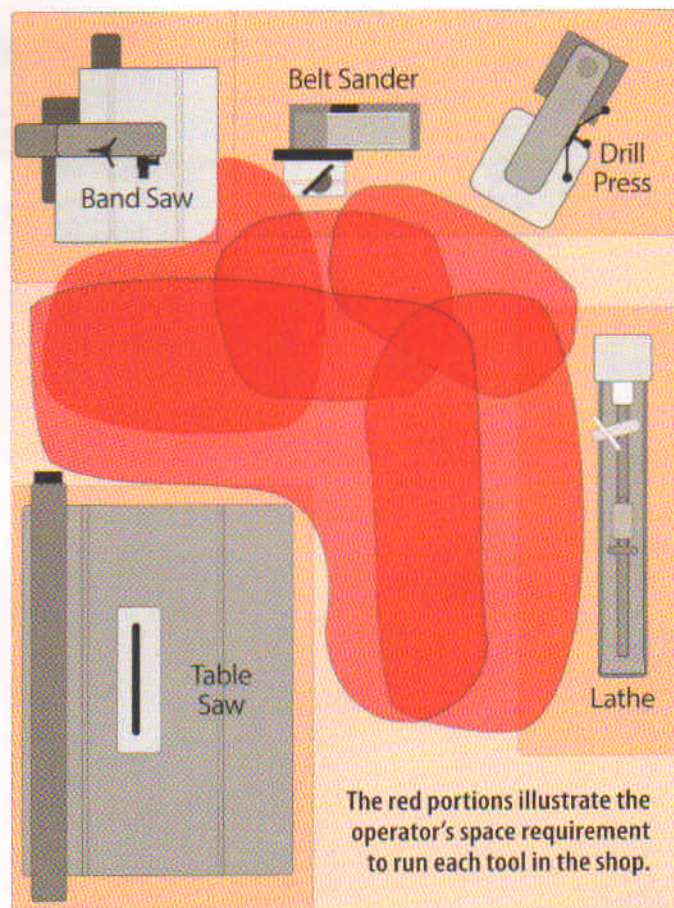
Being Ruthless

If it does not earn its keep, it has to go. The space an item takes up can sometimes be more valuable than the item itself. Clutter can creep up on me and I don't realize until frustration sets in at not being able to work properly. If a tool is not getting used, I relegate it to the household toolbox or closet. If I cannot imagine using it in the foreseeable future, it has to go—usually swapped or given to a fellow woodworker, so I can always borrow it, if necessary.

Offcuts and scraps are carefully scrutinized for possible future use, as my storage space is small. I am lucky to reside less than half a mile from a major lumberyard, so I can acquire most materials with ease. Carefully calculated quantities help keep purchasing costs and storage space low, although I have sometimes gotten away with 'temporarily' storing hardwood behind the living room sofa!

Staying Clean and Tidy

My workshop is a place where hassles and pressures are left outside and I can truly switch off and enjoy the hobby. It is so easy to drop into the 'I'll clean up



tomorrow' mode of thinking, but after a week or so, this mentality becomes destructive. I soon got into the habit of the 'after session' tidy-up, and this chore became a pleasure once I realized how much time it could save me. I do not enjoy trying to find the 1/8" (3mm) drill bit I just dropped onto the floor in a pile of shavings, for the second time! Every few weeks, I take the time to clean up thoroughly while listening to a few episodes of my favorite podcast (about woodworking, of course). It truly is time well spent. In the spring, the entire workshop gets a deep clean, setting me up for the warmer weather and the start of filming for my YouTube adventures.

What's Inside

The 8x6 Workshop contains:

- 187 hand tools
- 21 power tools
- 9 pieces of heavy machinery
- 102 sq. ft. of shelving and wall storage
- Countless accessories

Amazing But True!

Internal Dimensions:

- Width: 5' 11"
- Length: 7' 10 3/4"
- Height: 7' 4"
- Footprint: 46.7 sq. ft.
- Volume : 342.6 cu. ft.

Flexibility

Having a designated place for everything is a great advantage in a small space. Everything apart from the bench that the drill press sits on is either on castors or hung on the walls using a French cleat system (see sidebar at right). Custom hangers for each tool mean that not an inch is wasted. There are no cupboards or drawers to collect junk and, as the cleats cover all of the wall space, the entire workshop can be rearranged at will. Even the roof space is used for storage. Two DIY roof-mounted gantries accommodate homemade camera and microphone booms, and with metal plates and power sockets for lighting up there too, I have the ability to move my magnetic work lights wherever they are needed. Tripping over tripods during filming is something I don't miss at all.



When considering areas of unused space, don't forget to look up. The ceiling makes an ideal hangout for lights, outlets, spare blades, and safety equipment.

The French Cleat Method

The French cleat is a method of hanging anything—from a piece of artwork to fully laden kitchen cabinets—with ease. Just use a 45° angle on the mating surfaces, and the weight of the hanging object holds it securely against the wall. French cleats provide an added feature of total flexibility, meaning that the hanging items can easily be repositioned elsewhere on another cleat. The cleats themselves only intrude into the workspace by the thickness of the wood used (in my case $\frac{7}{8}$ " [2.2cm] pine) and therefore stay out of the way when not in use. The workshop cleats cover three walls, so anything can be relocated depending on my changing needs.

When gathering materials for a French cleat system, keep in mind that pine, hardwood, or plywood from $\frac{3}{4}$ " (1.9cm) up is fine for the rails and hangers. However, I would avoid composite boards such as MDF or particle board, as these can give out without warning. Use multiple anchor points for each length into either brick wall or wooden studs. Once you have the first cleat in place and level at the lowest point on the wall fitting, the rest is easy. With the use of temporary spacers, the remaining rails can be equally spaced with accuracy as you work upward. Rows of cleats close together will maximize the usable space, but remember to allow a little extra clearance between cleat rails for the hanging cleat to drop into place. Spacing them evenly will allow you to use more than one cleat for large or heavy items without compromising mobility. My cleat rails are $2\frac{1}{2}$ " (6.4cm) and spaced $3\frac{1}{4}$ " (8.3cm) apart, but larger workshops may not necessarily require such a density.





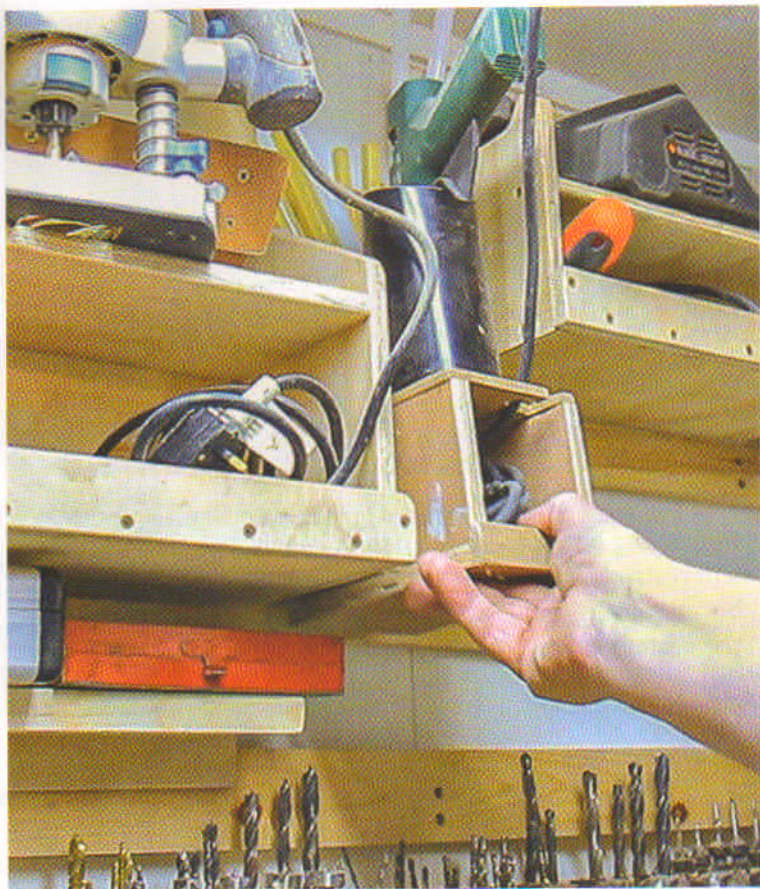
These chisels and chucks are hung within reach of the lathe.

Organization

When reaching for a tool, I want to be able to grab it without having to move other things out of the way first. It slows down workflow and leads to untidy clutter, as items not related to the task are often moved and not immediately put back where they belong. Disorganization soon escalates into an untidy, frustrating, and inefficient mess.

As floorspace is a premium, I hang everything on the walls and put it back immediately after use. Tools are organized around the area they are used the most, with the least-used tools hung out of the way. For example, all the wood turning tools, chucks, abrasives, and finishes are located within easy reach of the lathe. Planes, saws, gauges, and other hand tools sit near the workbench. Drill bits, Forstner bits, chuck keys, and lubrication oil are placed around the drill press. You always know where every item is, and once you are familiar with the layout, you can reach for a tool without moving and know exactly where it is without even looking!

Should I use a tool in more than one place, it gets placed in a spot where I can reach for it from either



Hangers and Caddies

When it comes to storage strategies, your imagination is your only limiting factor. My design rule is that the tool must be accessible and reachable with just one hand.

Hangers and caddies are utility items, designed to do a job and not necessarily for show—so anything goes. For an individual tool hanger, I customize the method of hanging depending on the shape of the tool. When a tool already has a method of hanging, I take advantage of it. Drawing the shape of the hand hole and cutting it out of the appropriate wood using a scroll saw couldn't be easier to get saws hanging just right—teeth hanging inward, of course!

Caddies are built to suit the tool and its accessories. Most are variations of a box section that is simply screwed together so that it can be easily disassembled, modified, or reused to accommodate new accessories. I find 1/2" (1.3cm) plywood to be quite adequate for these caddies. I would imagine that, like me, you may have a few offcuts of the stuff already!



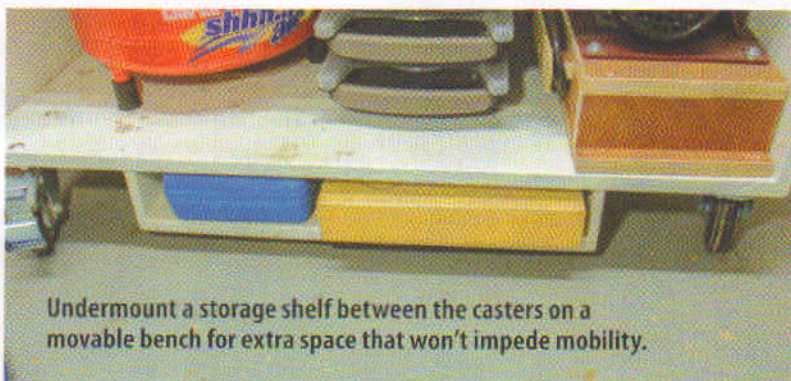
position. The pockets of my working trousers always contain pencils and a tape measure, so I know where they are at all times. This may appear to be a little over-the-top, but consider all those wasted minutes spent looking for a tool. They can soon add up!

A few other things to keep in mind:

- **Areas can have more than one use.** Turning the lathe bed into an additional workspace with a clip-on panel when it's not in use can be handy for larger projects.
- **The floor is not for storage.** Pushing something out of the way under a bench will restrict that bench from being moved, but mounting additional storage between the casters will allow the space to be utilized and will move with the bench.



Roof-mounted tubes store overhead items that would otherwise be underfoot.



Undermount a storage shelf between the casters on a movable bench for extra space that won't impede mobility.

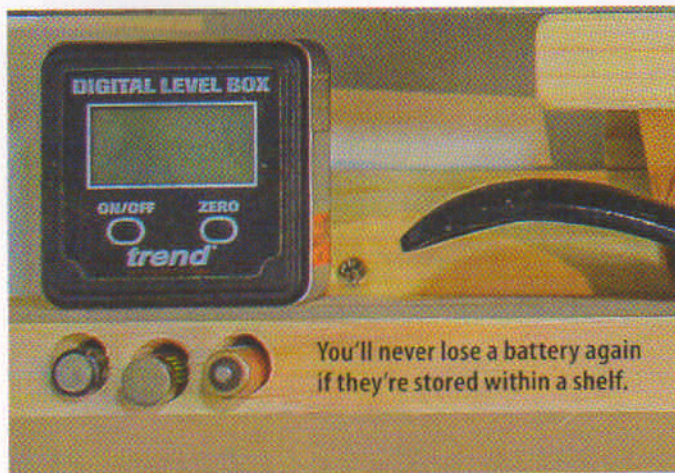


Custom build a caddy for each power tool you own. The lower portion should house all the necessary parts (power cords, hex keys, wrenches, chucks, collets, etc.) that belong to the tool stored in the upper part.

Thinking Outside the Box

In the 8x6, power tools are stored in custom lift-down caddies so all their essential accessories are kept with them. The caddies, which also store the power flex, are simple to make, and you can easily modify them on the fly should the need arise. If I have to work outside or off-site, I can easily grab the caddy and go—knowing I have all the bits and pieces required for that tool. These caddies are more accessible and space-efficient than the original storage cases. In normal circumstances, when a power tool is in use, its case lies around, usually left open to collect shavings (come on, admit it). But in my shop, the caddy goes back on the wall and out of the way.





You'll never lose a battery again if they're stored within a shelf.

To keep batteries from rolling around or getting lost, I situate them near the tools they are used with and rechargeable cells are placed backward as a visual reminder that they are in need of an overnight recharge. This simple hack saves a small fortune from going into the swear box!

More on PVC and Hot Glue

When building tool storage areas, I often use up offcuts of PVC or ABS pipe, as it's a ready-made resource. I either buy it cheap, dumpster-diver (always seek permission first), or ask local tradespeople for offcuts. Overflow pipe around 3/4" (1.9cm) works great for collecting small tools, and rainwater downpipe works well for larger individual tools.

My glue gun caddy accommodates both the glue sticks and the power cable, and the short length of 3" (7.6cm) PVC downpipe holds the gun so that it can be safely stowed straight after use while still hot! The pipes are hot glued together and to the cleat hanger, which offers enough strength for the job but lets me pull them apart for rearrangement at a later date. If I find I need another holder, I simply cut a piece of pipe to the required length and, after a test fit with the tool, glue it onto the existing arrangement.



Hang saws perpendicular to the wall to save space.

Saws would take up a great deal more space if conventionally stored flat to the wall; however, hanging them sideways saves valuable wall space. Some PVC pipe and hot glue allow compact storage for pliers, grips, and other hand tools.

A Final Thought

Being in the workshop—a creative space I have full control of—lifts the spirits. In my life, particularly in my later years, I've had my fair share of loss and tragedy, and on more occasions than I care to count I still have depression pay me a visit. Whenever I start catching glimpses of the black dog out of the corner of my eye, I know I would benefit from some time in the workshop. The 8x6 is a space where no black dog of depression is allowed, and as I enter, I mentally tell him he has to stay outside for his own safety. When I close up for the day and walk the handful of yards back to the house, he is nowhere in sight.



Stephen Watson, Cert.Ed., lives in the town of Leyland in Lancashire, UK. He is a three-dimensional artist who works in wood, plastics, and paper. His work has been exhibited throughout the UK and has been acquired by collectors worldwide. Stephen realized his dream of a home workshop in 2016. His hobbies include amateur radio, electronics, filmmaking, and origami; he is known to his friends as 'Nerd.' You can find Stephen at 8x6workshop.co.uk or on YouTube at Stephen's 8x6 Workshop.

ON THE WEB See some projects from the 8x6 on our website.
scrollsawer.com

Have you used any clever space-saving tricks in your own workshop? Send us photos of your converted garage, basement, garden shed, etc. at editors@scrollsawer.com!

Ramp Walker Toys

This hedgehog and armadillo were meant to race—no wheels required

By Paul Fellay

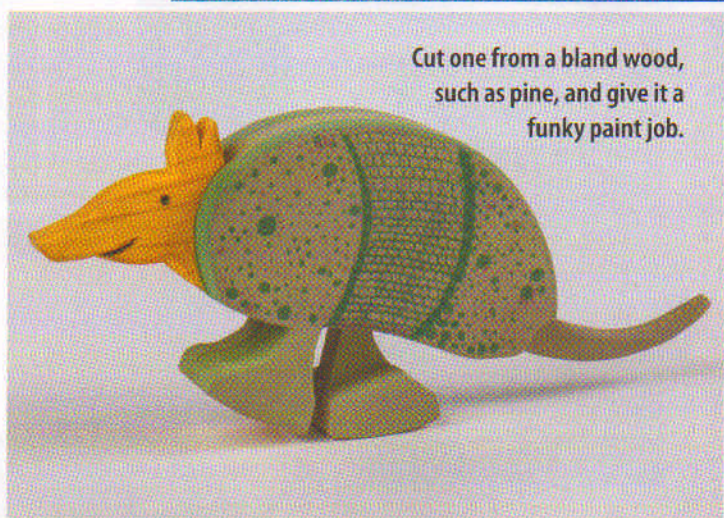
Cut by Rolf Beuttenmuller

Do you like dynamic toys? Try out one or both of these simple ramp walker projects. Ramp walkers are designed to walk down an incline, and they only need gravity to function—no batteries or windup motors required. They are quite simple to assemble, and you can build them in a short period of time. I like to set up a wide wooden ramp and race a few creatures at once; after a stressful day, watching these little guys “fight” it out on the racetrack is the perfect medicine.



Paul Fellay lives in Argentina and enjoys building and designing different wooden projects, especially mechanical toys. He finds the scroll

saw to be the ideal tool for quickly prototyping and testing his designs. Find more of Paul's work on Etsy at WoodCreationPlans, or contact him at paulsebafellay@gmail.com.



Cut one from a bland wood, such as pine, and give it a funky paint job.



Getting Started

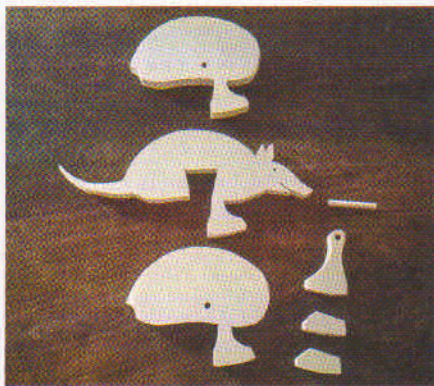
Pre-sand the blanks, moving up progressively through the grits until you reach 320. Photocopy the patterns. Cover the surface of the stock with clear removable shelf paper or similar, and attach the patterns to the surface of the paper with spray adhesive. Drill the hole for the eye. *Note: You could also woodburn the eyes later, if desired.*



Patterns for **RAMP WALKER TOYS** are in the pullout section.

ON THE WEB See a video of the Ramp Walkers in action online.
scrollsawer.com

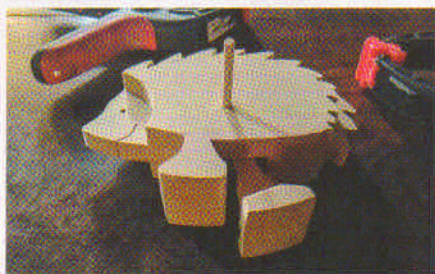
BUILDING A RAMP WALKER



Cutting and Assembling

Cut the pieces. Remove the patterns and sand each piece with an orbital sander, lightly softening the sharp edges on all sides but the ones that will be glued; these should stay flat. Take extra care to smooth the swinging leg pieces, as it should be able to move without friction. Stack the three body pieces, making sure the edges are flush. Then drill the $\frac{1}{4}$ " (6mm) dowel holes while the pieces are stacked. In the center swinging leg piece, drill a $\frac{1}{16}$ " (7mm) hole.

Glue and clamp one side onto the central body piece, keeping glue out of the area where the swinging leg will go. Once the glue is cured, dry-fit a $\frac{1}{4}$ " (6mm)-dia. dowel into the hole to help with alignment. Glue and clamp the three swinging leg pieces together. Dry-assemble the leg mechanism, making sure that the leg swings freely from the body pieces and sits at the same level as



the front leg. The legs will form a slight curvature when side-by-side to allow for rocking. *Note: If the legs do not sit at the same level, the creature will not walk properly. Refer to the exploded drawings below.*

When you are satisfied with the fit, glue the dowel to one side, leaving the back leg unglued and free to swing. Then glue and clamp the second body side in place, applying glue to this side of the dowel, as well. Cut off the excess dowel and sand both sides smooth on a belt sander. Soften all body edges further with the orbital sander, and then hand-sand, moving up progressively through the grits to 320. Remove excess dust with a tack cloth.

Finishing

Apply a finish. If you chose a bland material, such as MDF or pine, get

creative with different colors; you could paint on thinned acrylics in various designs and then apply a clear lacquer once the paints have dried. If you chose rich hardwoods, a natural finish (such as Danish oil) is best. Alternately, you could leave the toy unfinished and let a child's imagination do the rest, encouraging them to experiment with watercolors, glitter, felt pens, or crayons.

Test Run

To test the projects, you will need a ramp. I use a wide wood plank, propped up on one end. Position the walkers at the top of the slope and give each one a tap to get it to rock. Adjust the angle as needed; if it's too shallow, the walkers won't move, but if it's too steep, they'll fall on their noses.

Materials & Tools

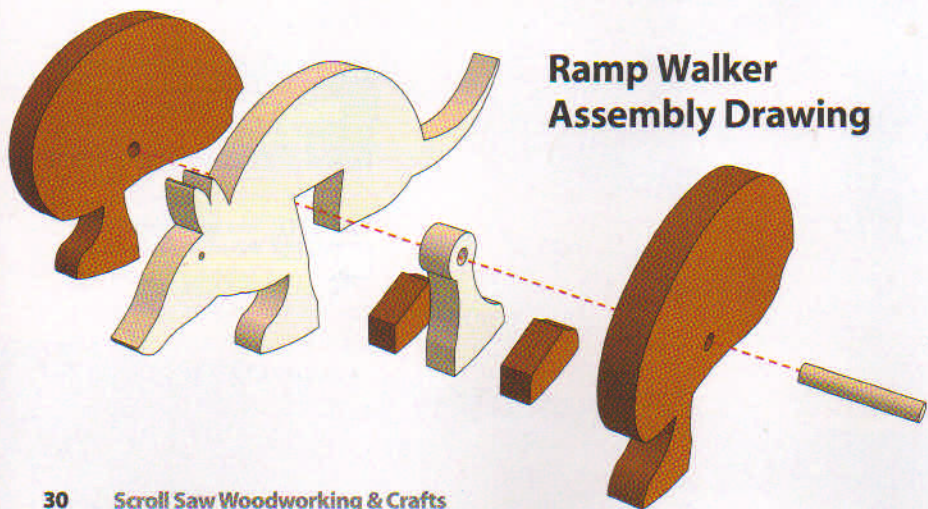
Materials

- Wood, such as walnut, maple, MDF, or pine, $\frac{1}{2}$ " (1.3cm) thick: hedgehog, 10" (25.4cm) square
- Wood, such as maple or cherry, $\frac{1}{2}$ " (1.3cm) thick: armadillo, 10" (25.4cm) square
- Wood dowel, $\frac{1}{4}$ " (6mm)-dia.: $1\frac{1}{2}$ " (3.8cm) long (1 per animal)
- Self-adhesive shelf liner, such as Con-Tact® removable creative covering
- Spray adhesive
- Sandpaper: assorted grits to 320
- Wood glue
- Tack cloth
- Finish, such as clear semigloss lacquer
- Acrylic paints (optional)

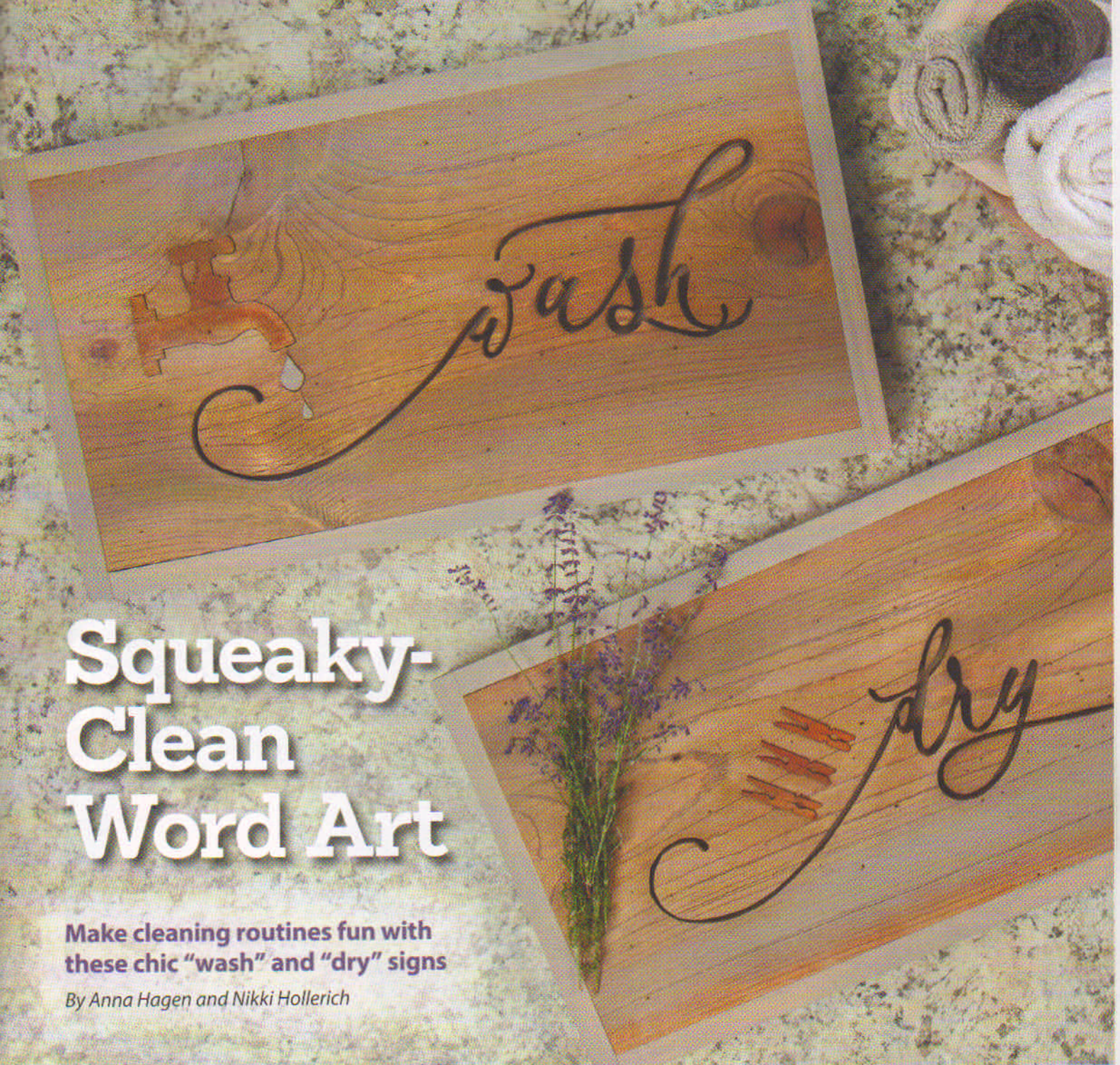
Tools

- Drill press with bits: $\frac{1}{4}$ " (6mm), $\frac{1}{16}$ " (7mm)-dia.
- Scroll saw with blades: #3 or #5 reverse-tooth
- Variable-temperature woodburner with nib: writing (optional)
- Sanders: belt, orbital
- Clamps
- Wide wood plank (optional)

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



Ramp Walker Assembly Drawing



Squeaky-Clean Word Art

Make cleaning routines fun with these chic “wash” and “dry” signs

By Anna Hagen and Nikki Hollerich

Recently, we decided to create a few pieces of art for Nikki’s newly remodeled laundry room. We wanted to bring in some timeless symbols of cleanliness and give the space a “farmhouse” feel. These chic decorations offer an easy upgrade for any corner of your home where cleaning is done, from laundry room to bathroom to kitchen. They’re also a stylish way to remind little people to wash their hands!

Getting Started

Distress the wood. We use hammers, nails, and screwdrivers to “beat up” the wood before cutting; any puncture will pull in the stain differently when you finish the piece later, giving the art depth. Apply the pattern to the surface of the wood using your

preferred method; we use scroller's tape, but you could also use repositionable spray adhesive. Drill the blade-entry holes for the letters and decorative elements; these will both be cut from the same piece of wood.

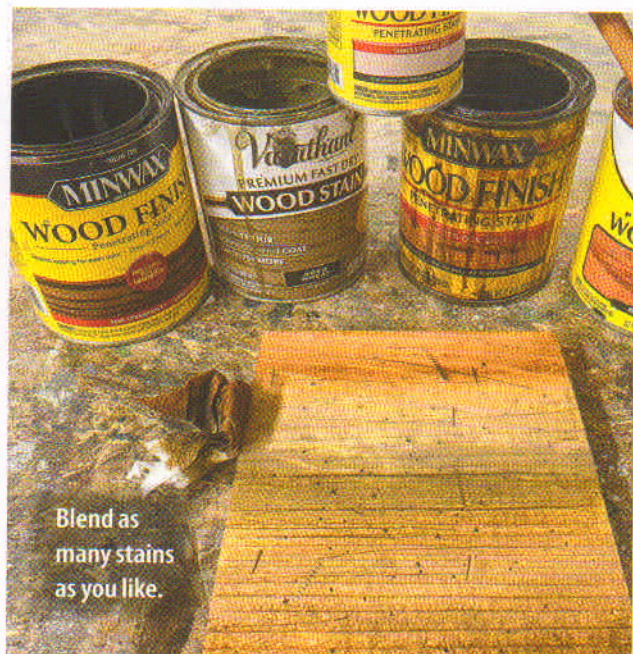
Cutting and Finishing

Cut the signs. Be especially careful when cutting the clothespins, as neither the shapes nor the outsides will be discarded as waste. *Note: For this project, the cutouts from the letters will be discarded. However, you could also cut them from another piece of wood, thickness 1/2" to 3/4" (1.3cm to 1.9cm), and attach them to the distressed pine surface later.* Be aware that some of the pieces, such as the interior of the "a" in "wash," will fall out during the cutting process; set them aside and save them for later. Lightly sand the pieces to remove any fuzzies.

Apply finish. Hand-dunk each piece in Minwax golden oak and let dry. This is a great way to get color into all of the small cracks and crevices. Then stain each cutout piece as desired. We hand-stain each of our pieces using between five and ten different stains. Apply the colors in layers while wet to create depth, pulling the stain along the grain. Blend where necessary with a clean paper towel. Let dry. Glue and clamp the art to the backing, making sure to add the interior letter pieces you set aside earlier. If necessary, trim the art to size on a table saw. Add a simple frame, if desired; we cut ours from scraps of pine. Attach hangers to the back of each sign and display.



Use hand tools to make divots in the surface of the wood.



Blend as many stains as you like.

Materials & Tools

Materials

- Pine, 3/4" (1.9cm) thick: signs, 2 each 12" x 30" (30.5cm x 76.2cm)
- Wood, such as tempered hardboard, 3/4" (1.9cm) thick: sized for signs
- Pine, 1 1/2" (3.8cm) thick: frame sides, 4 each 3/4" x 12 5/16" (1.9cm x 31.9cm); frame top/bottom, 4 each 1 1/2" x 21 3/4" (3.8cm x 55.2cm)
- Tape: scroller's
- Spray adhesive: repositionable (optional)
- Sandpaper: assorted grits up to 220
- Stain, such as Minwax: golden oak, gunstock; such as Rust-Oleum: antique white; such as Varathane: briarsmoke, summer oak, sunbleached
- Wood glue
- Nails (for distressing)

- Finishing nails (for frame)
- Paper towels
- Hangers: sawtooth

Tools

- Drill press with bit: small
- Scroll saw with blades: #7RG double-reverse
- Table saw (optional)
- Hammer
- Screwdriver
- Foam brushes: assorted
- Clamps

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

Patterns for the **SQUEAKY-CLEAN WORD ART** are in the pullout section. Modified patterns available on the web.



Five years ago, Minnesota sisters Anna Hagen and Nikki Hollerich created a piece of wooden art for Anna's mantle. They started making pieces for their friends and their craft blossomed into a small business, Hagen & Oats. See more of their work at hagenandoats.com.

Pouncing Kitten Intarsia

Use dramatic hardwoods
to give this feline a set of
natural stripes

*Design by Lucille Crabtree
Text and photos by Janette Square*



Back in 2013, Lucille Crabtree—an amazing intarsia designer and artist—gifted me her designs. She sold the rights to a few of them over the years, but what was left is an incredible collection, her legacy in the intarsia community. I promised that I would keep her designs alive and available for others to enjoy for years to come.

When I received her collection, I began the daunting task of sorting through a lifetime of accumulation and taking inventory. Recently, I came upon this kitten design, dated 1999, as if for the first time. I'd gone through her collection numerous times, so why didn't I remember seeing this one before? I got out my folder and the inventory list I'd made...nothing, no mention of it anywhere! It's as if it magically appeared where I was bound to find it. I redrew the pattern with a few changes here and there, and voilà!

Choosing Wood

Decide on your colors and select the woods you plan to use. This design isn't difficult and can be easily modified to apply the color choices for whatever fur baby you want to honor. The lines on the pattern suggest the wood grain direction. As you will see, those are a suggestion only. I found a wonderful piece of walnut that had natural striping in the grain, so I chose to utilize it to create a tabby-patterned kitten. In some places, such as the tail and front leg, I changed the grain direction from what I would normally apply to best highlight the striping of the wood.

While the thickness of the wood doesn't have to be exact, it should be a minimum of $\frac{3}{4}$ " (1.9cm) thick. Take note of the thickness of the woods you have and plan ahead for the need for risers. For more on risers, turn to page 15. Thicker wood (up to about 1" [2.5cm]) will give you more shaping options. *Note: For intarsia, the larger the piece of wood, the more options for pattern placement are available to you.* The sizes listed in Materials & Tools are the minimum required, and this could change depending on how you orient the pattern pieces.

Planning Ahead

You can choose to inlay the frog by cutting its perimeter into the "ground" piece, or you can glue it directly to the surface, as I did. Because I chose to use risers (or shims) to elevate the head pieces on the kitten, I also added an extra ground piece to the right side so that the risers aren't visible from any angle. Depending on the size and thickness of wood you choose, this may not be needed. You could also incorporate this piece into the main ground piece if your board is large enough. If the wood you want to use isn't large enough, consider using several smaller pieces instead. I have the ground drawn out to a certain size in the pattern; however, the wood I chose was slightly smaller than what the pattern called for, so I simply adjusted as needed to fit the design. A slab or log round would work great, as well. Use what you have available and make modifications as needed.



Prepping and Cutting

Make at least four copies of the pattern. Save the original to use as a master template. Number and cut out the individual pattern pieces, and sort according to your color choices. Apply clear packaging tape to the wood. Using spray adhesive, apply the pattern pieces to the wood in the desired grain direction. Study the wood and place the pattern so that each piece is showcased as well as possible. Drill blade-entry holes into the yellowheart eye pieces and cut out the inner circles on a scroll saw with a #3 reverse-tooth blade. Cut all remaining pieces using a #7 reverse-tooth blade. Be sure to cut all kerfs (the slits in the paws, whiskers, and nose), as well.



SHAPING THE PIECES



1

Roughly sand each piece to remove fuzzies.

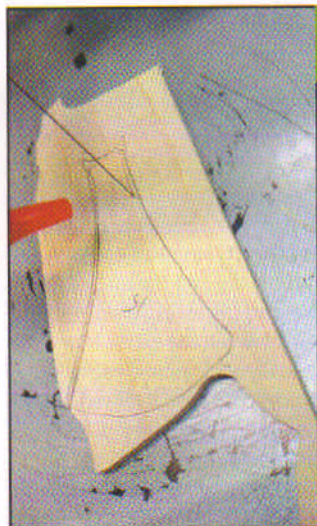
I used a mop sander. This will help the pieces fit together more accurately. Transfer the appropriate number to the back of each piece, and then remove the pattern from the front. Assemble the project on the master copy. If necessary, correct minor fit issues with a spindle sander.



2

Plan the risers. *Note:*

Some people like to thin pieces now, before adding the risers. I prefer to wait until after I add the risers; it's easier to thin later than it is to add wood back! I added thin risers to my head pieces and eyes. I chose to make a relatively flat-faced kitten, but you could add more dimension and have the muzzle protrude even more, if desired. Just be aware of the thickness of the pieces around each piece you raise; everything should look cohesive, with no single area standing out too much.



3

Prepare the risers. Trace each piece that requires a riser on a piece of scrap Baltic birch plywood in an appropriate thickness (most of mine are $\frac{1}{8}$ " [3mm] to $\frac{1}{4}$ " [6mm] thick). Cut each piece with a #2 or #3 blade, staying slightly inside the traced lines.



4

Test the height. Once satisfied, glue the risers to the back of the pieces. Transfer the piece number to the bottom of each riser. I added risers to the face, ears, and paws to create more depth. Glue the pupils into the eyes before you shape them, so all parts of the eye are sanded to the same thickness.



5

Reassemble and shape. Start with the large body piece, rough shaping with a 120-grit flex drum sander. Taper the lower area where it meets the ears and round over the rump. Mark adjoining body pieces with a pencil for reference, and shape the new pieces to the lines. Don't be afraid to round outside edges over all the way so you don't see a defined edge. Round the head and give the ears a slight concave shape. Inset and curve the surfaces of the eyes, removing wood from the areas around the muzzle to make the muzzle stand out. Bring down the face and front leg slightly to make the paws and brows stand out. Sand the surface of the ground piece with the 120-grit flex drum sander. Round over the edges to soften the look. Once you are satisfied, switch to a 220-grit flex drum sander and fine-sand each of the pieces you just shaped. Hand-sand all pieces with 220-grit sandpaper to fine-tune, remove any noticeable scratches, and soften the edges. Erase any pencil lines and, finally, buff each piece with the 220-grit flex drum sander.



6 Shape the frog. I used the 120-grit flex drum sander to smooth each of the pieces. Then, for the feet, I used a rotary tool with a flame-shaped carbide bit to indent the areas between the toes and create a bit of texture. Hand-sand to 220-grit to remove the scratches made by the bit.



8 Finish the project. I used a clear satin gel varnish, applying liberally over the surface with a foam brush. Wipe off the excess; then, using an air compressor, blow out the excess from the cracks. Continually work around each piece until all excess varnish has been removed. Use a rubber-tipped dental tool and paper towels to go over all cracks and edges and clean out any residual finish. Be sure to wear eye protection when blowing out the varnish.

ASSEMBLING & FINISHING



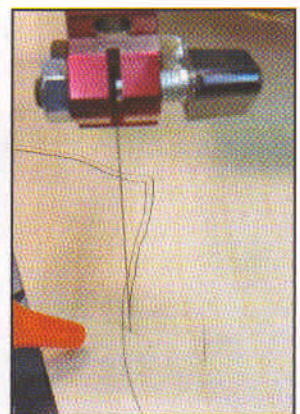
7 Glue the pieces. I prefer to edge-glue all the pieces together prior to finishing. Using a skewer and wood glue, apply a small amount of glue to the edges and carefully glue each piece. Applying glue to the lower edge of an individual piece will lessen the likelihood of its squeezing out when assembled. To maintain accuracy when gluing, assemble the pieces on top of a piece of waxed paper, which sits on top of the master pattern. Regularly check the pieces to ensure that everything fits correctly as you go. Pieces can easily shift while gluing, and it can be frustrating to have to shift them back once the glue has started to dry. Glue the frog separately, allowing it to dry before gluing it onto the ground piece. Place the frog in the kitten's line of vision, using the pattern as a guide. Glue, clamp, and let dry. Add a dab of antique white acrylic paint in the top left corner of each eye.



9 Clean the crevices. Using a small, sharp dental tool, clean any excess finish from all of the kerfs (paws, whiskers, and nose). Allow the piece to dry overnight. Apply two to three total coats of finish for the best look and protection.



10 Cut the backer. Trace the project onto $\frac{1}{8}$ " (3mm)-thick Baltic birch plywood or a material of your choice. Cut about $\frac{1}{8}$ " (3mm) inside the line, using a #2 reverse-tooth blade. Soften the edges with the mop sander. I like to use a magic marker to color the edges of the backer so that they are less visible once you hang up your finished piece. If desired, write your wood choices on the back, and sign and date.





11

Add the backer. Apply wood glue to the front of the backer and clamp it to the back of the project until dry. Use soft cloths or old socks to protect the front of the piece from being harmed by the clamp edges. When dry, attach a hanger and enjoy!

Materials & Tools

Materials

- Wood, such as walnut, $\frac{3}{4}$ " (1.9cm) thick: face, body, and tail, 11" x 17" (27.9cm x 43.2cm)
- Wood, such as yellowheart, $\frac{3}{4}$ " (1.9cm) thick: irises, 1" x 3" (2.5cm x 7.6cm)
- Wood, such as ebony, $\frac{3}{4}$ " (1.9cm) thick: pupils, 1" x 2" (2.5cm x 5.1cm)
- Wood, such as butternut, $\frac{3}{4}$ " (1.9cm) thick: muzzle, 2" x 3" (5.1cm x 7.6cm)
- Wood, such as aspen, $\frac{3}{4}$ " (1.9cm) thick: paws, 2" x 6" (5.1cm x 15.2cm)
- Wood, such as Peruvian walnut, $\frac{3}{4}$ " (1.9cm) thick: face stripes, 1" x 2" (2.5cm x 5.1cm)
- Wood, such as poplar, $\frac{3}{4}$ " (1.9cm) thick: frog, 4" x 6" (10.2cm x 15.2cm)
- Wood, such as light butternut, $\frac{3}{4}$ " (1.9cm) thick: ears, 2" x 3" (5.1cm x 7.6cm)
- Wood, such as cherry, $\frac{3}{4}$ " (1.9cm) thick: nose, 1" (2.5cm) square
- Wood, such as curly maple, $\frac{1}{4}$ " (6mm) thick: ground, 11" x 12" (27.9cm x 30.5cm)
- Wood, such as Baltic birch, $\frac{1}{8}$ " (3mm) thick: backer, 11" x 17" (27.9cm x 43.2cm)
- Wood, such as Baltic birch scraps: risers (optional)
- Tape: clear packaging
- Spray adhesive: repositionable
- Sandpaper: 180- to 220-grit
- Waxed paper
- Wood glue

- Wood skewer (for glue application)
- Clear finish, such as gel varnish
- Black marker
- Pencil
- Acrylic paint: antique white (for eye highlight)
- Paper towels
- Gum eraser
- Hanger of choice
- Soft cloths or old socks
- Foam brush: disposable

Tools

- Scroll saw with blades: #2/0, #3, #7 reverse-tooth
- Drill press with bit: $\frac{1}{16}$ " (2mm)-dia.
- Rotary tool with bit: flame-shaped carbide
- Sanders: mop, spindle, flex drum with 120- and 220-grit
- Air compressor (optional)
- Paintbrush: small
- Assorted clamps
- Dental tools: assorted (for finishing)

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

Pattern for the *POUNCING KITTEN INTARSIA* is in the pullout section.



Janette Square lives in Yachats, on the Oregon coast. For more of Janette's work, visit her website at square-designs.com.

Insect Shadow Box Segmentation

Delight a nature-lover with this no-kill collection of colorful bugs

By Emily Lewis

If you enjoy colorful creations, this is definitely a project for you! Combining segmentation with a small amount of intarsia work, my nature-inspired design is a great introduction to both art forms. I've added a simple entomologist's shadow box to frame the vibrant swallowtail butterfly, luna moth, and ladybug within.

Wood Choice

I used sycamore due to its workability and subtle grain pattern, but you can use a different variety, if desired. I recommend going for something that is sourced locally and is durable enough to survive fine cutting. I used $\frac{1}{2}$ " (1.3cm)-thick stock, but there is no set thickness for this project. If you do use wood in a different thickness, be sure to alter the scroll saw blade size accordingly.

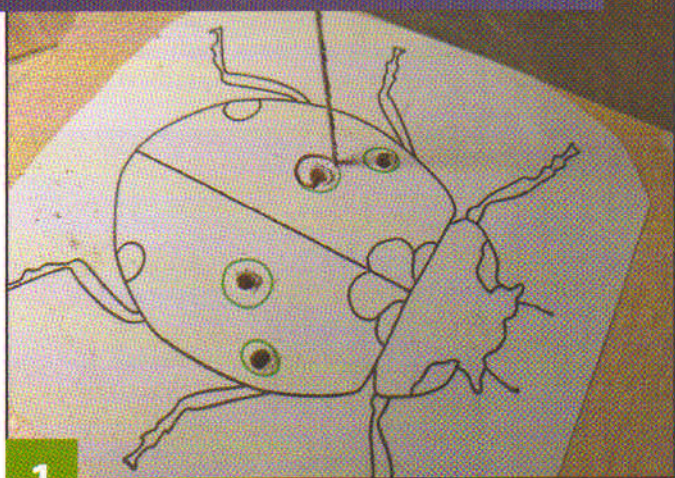
Getting Started

Attach the pattern to the wood; I used a repositionable glue stick. Be sure to cover the entire sheet with glue, as any paper on small components can easily be dislodged when cut. If you are using a section from a larger piece of wood, roughly saw around the pattern perimeter to isolate the working area. I used a jigsaw, but you could use a scroll saw instead.

Drill all necessary blade-entry holes (marked with an X on the pattern) through the full depth of the wood using an appropriately sized bit. It is useful to do this before cutting the individual pieces, as the uncut pattern is much easier to stabilize for drilling. I used a lightweight Dremel workstation for this task, as it allows me to turn my rotary tool into a small pillar drill.

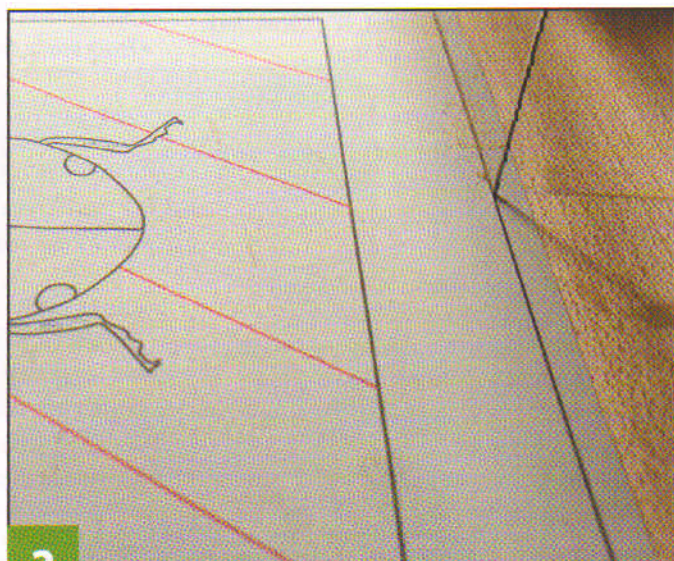


CUTTING & SHAPING



1

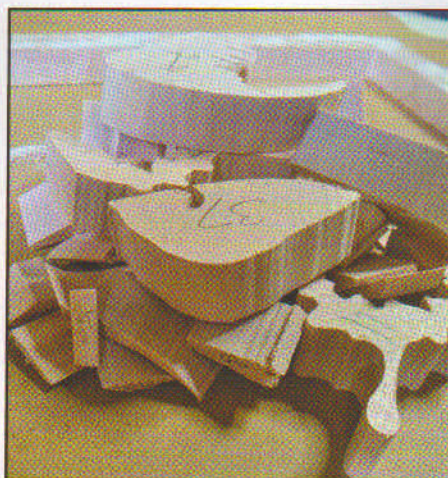
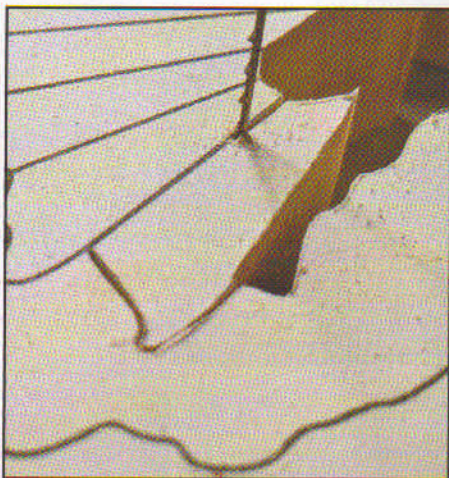
Cut the interior spots on a scroll saw. These are the areas marked in green on the ladybug and moth patterns. Take your time, cutting as close to the inside of the line as possible to ensure a close fit. Carefully cut out the corresponding circles marked "intarsia spots" on the pattern, making sure to cut slightly outside the lines. It is easier to make the spots on the larger side than to cut them too small and leave gaps. Test the fit in the intarsia spot holes.



2

Cut the frame. Go slowly in order to keep the line as straight as possible.





3

Cut the remaining pieces. Work steadily to keep the blade on the lines. Limit the number of sharp turns needed by considering the best direction of approach in each instance. If you are finding a corner particularly tight (such as around the butterfly's intricate wing pattern), back the blade out, rotate the piece, and then cut into the wood from the other side until the two cuts connect. After completing each piece, mark the underside with the letter that corresponds to that section on the pattern. This will ensure that you don't mix up the pieces during assembly. Remove the patterns; I dislodged any particularly sticky areas using a rotary tool with a sanding drum.



4

Dry-assemble the insects. Use the numbers on the backs of the pieces for reference. Removing the pieces individually, carefully sand each to its approximate final depth (anywhere from $\frac{1}{8}$ " [3mm] to $\frac{1}{4}$ " [6mm] thick) using a rotary tool with a low-grit drum (such as 120). I regularly replace the piece that I am shaping beside its neighbors to ensure that the height suits its location. Sand the spots in place, so they sit at the same height as the wings. Bring the ladybug's legs down until they are about half the thickness of the body. The moth's wing details should be slightly thicker than the areas around them. *Note: Some pieces in this project are particularly small and can be easily lost or broken. To avoid this, turn down the rotary tool to a very slow speed so that you don't lose control of it. Sand the outer frame to your own preference. I chose to only slightly bevel the inner and outer edges, but you could round them more dramatically, if desired.*



5

Shape the pieces. Use the same grit sanding drum to round the wings and torsos on the butterfly and moth. Bring down the moth's lower wings slightly so the upper wings appear to overlap them. Then taper the lower wings slightly toward the tips. Round the ladybug's head and torso separately; then gently shape the legs. Once you are happy with the shape of each component, go over them gently with a higher-grit (240 or above) drum to remove any sanding marks.

PAINTING & FINISHING



6

Add color. I used a combination of slightly thinned acrylic paints to reflect the brighter tones (such as the scarlet red of the ladybug) and Chestnut Product Spirit Stains for the more muted areas (such as the white vein pattern on the luna moth). Color the frame as desired; I chose to leave mine natural.



7

Glue the insects

together. I apply adhesive with a paintbrush to reduce excess drippage. Hold off on attaching the most delicate areas (such as the ladybug's legs and the moth's antennae) until later, when you are mounting the insects to the backing board. To reduce the likelihood of any problems, keep all pieces in their final position during this process, removing them only to add glue and then replacing and holding them in place until set. Try to limit the amount of glue that seeps from the edges onto the front of your project; wipe away any excess with a clean cloth.



8

Add the butterfly and ladybug antennae.

Very carefully drill each hole in the appropriate position on the insects' heads, using the pattern for reference. Drill to a depth of $\frac{1}{16}$ " (2mm) to $\frac{1}{8}$ " (3mm). Cut the wire to size using wire cutters, remembering to include the depth of the hole when working out what length you will need. Put a drop of cyanoacrylate (CA) glue into each hole before sliding the wire in. Quickly wipe away any excess glue and hold until set. Gently bend the antennae to shape them.



9

Add the backing board.

I selected a large piece of elm. Before gluing, position the frame in the center of the board with the insects arranged inside. Once you are entirely happy with the layout, carefully glue the project elements to the backing board. I used a combination of cyanoacrylate (CA) glue and Gorilla glue; the former acts as a clamp while the latter sets, and the latter expands to fill any minor natural discrepancies in the surface of the wood. Apply an oil or wax-based finish using a cloth or brush. This will help to bring out the grain and seal the project. I used Osmo Polyx®-Oil Satin Interior for a slight shine. Follow the instructions on the container to ensure successful results. Once dry, attach sawtooth hangers to the back and display.

Patterns for the *INSECT SHADOW BOX SEGMENTATION* are in the pullout section.

Materials & Tools

Materials

- Wood, such as sycamore, $\frac{1}{4}$ " (6mm) to $\frac{1}{2}$ " (1.3cm) thick: 10" (25.4cm) square
- Wood, such as elm, 1" (2.5cm) thick: backing board, 13 $\frac{1}{2}$ " x 14" (34.3cm x 35.6cm)
- Glue: wood, cyanoacrylate (CA), Gorilla (optional), repositionable stick
- Acrylic paints: assorted
- Spirit stains, such as Chestnut Products: assorted

- Finishing oil or wax, such as Osmo Polyx®-Oil Interior Satin
- Thin craft wire, $\frac{1}{32}$ " (1mm)-dia.
- Hangers: sawtooth
- Screws

Tools

- Scroll saw with blades: #5 MGT
- Rotary tool with sanding drums: 120- to 240-grit
- Drill press with bits: $\frac{1}{32}$ " (1mm), $\frac{1}{16}$ " (2mm)-dia.

- Paintbrushes: assorted
- Foam brush or cloth (for applying finish)
- Jigsaw (optional)
- Screwdriver

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



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 young business, *Ingrained Moments Woodcraft*. Emily particularly enjoys

developing original and one-off patterns using organic shapes, and regularly creates commissioned artworks of animals, people, and landscapes. See more of her work on Etsy @*IngrainedMoments_Shop* or at ingrainmoments.co.uk.

Any Port In a Storm

Capture the movement of a turbulent sea in three stunning layers of fretwork

By Fiona Kingdon

I have always had a fascination with the sea and those who pit their wits against its ferocity. Often in my artwork, I have tried to freeze-frame the dynamism of waves, working free-form to let fine filaments of wood express the curves I want. Those works are unplanned and can be a challenge to cut! In this pattern, I have tried to capture the same feel, while making an accessible design that folks can enjoy.

Prepping and Cutting

Smooth the blanks to your desired finish, moving up progressively through the grits to at least 320 (I typically go up to 1200 for an extra smooth surface, but this is not essential). Cover the stock with blue painter's tape and apply the patterns with spray adhesive, ensuring that the internal measurement of the frame marries up flush for each layer. Drill blade-entry holes and cut the three individual layers. I have found it easier to work first on the inside curves of wave forms, but in general, start in the middle of each layer and work your way out to the inner edge of the frame. Pay special attention to the inside edge of the 'frame'; it should be identical on each layer, so that the various elements sit flush with each other once stacked.







Finishing and Assembling

Once all of the layers are cut, remove the patterns and smooth any fuzzies with a careful sanding using high-grit sandpaper (I used 1200).

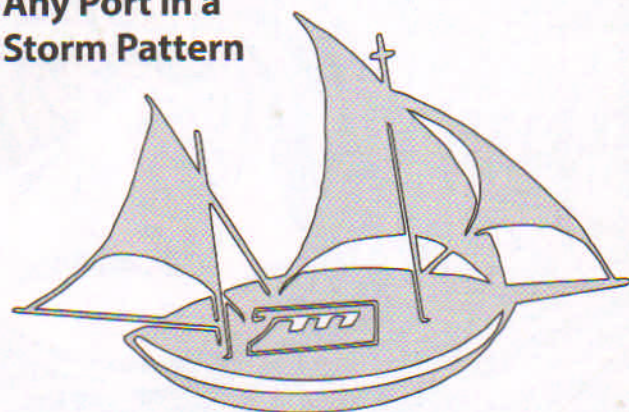
Apply a finish. I used a small paintbrush to cover all areas that will not be glued with a thin coat of Danish oil. Take time to apply the oil into all the little details. Once dry, apply a second coat; add more as your timber dictates.

Assemble the scene. Glue the spacer layer to the bottom wave layer (the one that rests against the backer), making sure to accurately line up the inner edges. Clamp until dry. Then, using the top (outermost) wave layer for reference, glue and place

the boat. Position and glue the front wave above the spacer and boat; clamp and leave to dry. Then add the backer, gluing and clamping in place until set.

Sand the outside edge of the assembly flush using assorted grits of sandpaper and a cabinet scraper, if desired. Use a square to ensure that the corners of the assembly are perfectly perpendicular. Cut 45° miters in the frame pieces, making sure that the inside measurement of each side is slightly greater than the size of the assembled layer stack. I used a miter box and tenon saw, but you could also use a compound miter saw if desired. Glue and clamp the frame pieces and let dry. Finish with a few coats of Danish oil and spray beeswax, avoiding any areas that will be glued. Place the frame over the stack and then carefully glue the layer sandwich into the frame, leaving around ¼" (6mm) of the frame protruding past the layers. If you wish to hang the scene, attach D-ring hangers to the inner frame edge of the layer sandwich using small screws.

Any Port in a Storm Pattern



© 2021 Scroll Saw Woodworking & Crafts

Materials & Tools

Materials

- Wood, such as English oak, ½" (1.3cm) thick: wave layers and spacer, 3 each 7½" x 11" (19.1cm x 27.9cm)
- Wood, such as Japanese ash veneer on plywood, ⅜" (5mm) thick: sky backer, 7½" x 11" (19.1cm x 27.9cm)
- Wood, such as sycamore, ½" (1.3cm) thick: boat, 2½" x 3½" (6.4cm x 8.9cm)
- Wood, such as English oak, ⅜" (1cm) thick: frame sides, 2 each 2" x 8½" (5.1cm x 21.6cm); frame top/bottom, 2 each 2" x 12½" (5.1cm x 31.8cm)
- Tape: painter's
- Spray adhesive
- Wood glue
- Sandpaper: assorted grits to 1200
- Hangers: D-ring

- Screws (for hanging)
- Natural finish, such as Danish oil
- Beeswax spray polish

Tools


- Scroll saw with blades: super-skip #2
- Drill with bits: ⅛" (2mm), ⅜" (3mm)-dia.
- Cabinet scraper (optional)
- Small paintbrush
- Clamps and scrap boards
- Square
- Miter box and tenon saw, or miter saw

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

Additional patterns for **ANY PORT IN A STORM** are in the pullout section.



Fiona Kingdon studied furniture restoration and craftsmanship, and then worked with children with behavioral difficulties. Eight years ago, with a need to return to working with wood creatively, she began using a scroll saw to express her artistic side. Fiona shows her work at galleries and events across the U.K. You can find more of her work at fionakingdon.com.



Pattern for the **EASY INTERLOCKING UNICORNS** is in the pullout section.

Easy Interlocking Unicorns

ScrollSchool
Family Workshop Project

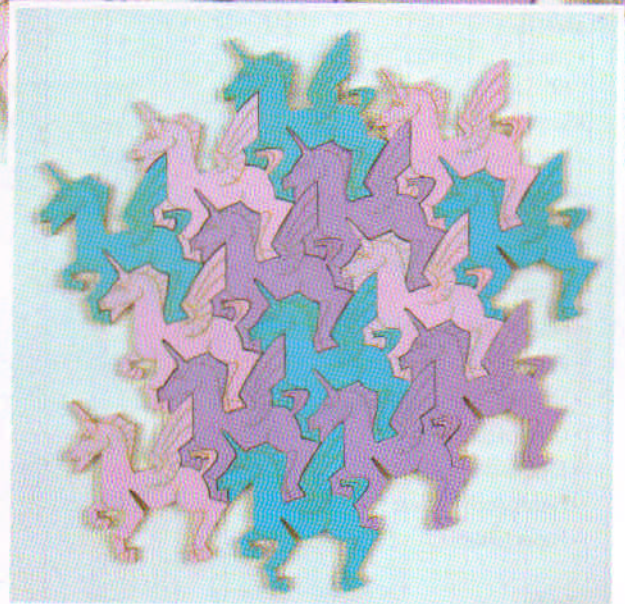
This adaptable puzzle can contain as many or as few pieces as you like

By Dave Van Ess

Tesselated projects are a fantastic way to practice precise cutting. (“Tessellation” is just a fancy term for a repeating shape that covers a surface without gaps or overlaps.) Apply the tessellation concept to unicorns and you get puzzle-like pieces that are a joy to decorate and arrange. The child in your life, actual or inner, will enjoy combining them to make interesting patterns or playing with them individually.

Getting Started

Prepare the stock. Sand both sides with 220-grit sandpaper to remove any grime or stains. Apply the



pastel base, I mixed several different colors of acrylic paint with thinned titanium white. Once the paint is dry, apply the patterns. See the sidebar on page 46 for different transfer methods. The wood dimensions in the materials list will fit four unicorns, but you can alter the dimensions to create more, if you prefer.

Cutting and Finishing

Cut the unicorns on a scroll saw. Keep in mind that the cutting lines on the patterns are blue, and the painting lines are red. These unicorns are very detailed, so take special care while cutting. After you complete each one, try fitting it with the others you have cut. From this trial-and-error process, you will find the occasional edge that needs trimming. Do this on the scroll saw if possible.

Sand away the fuzzies with 220-grit sandpaper. Then decorate the unicorns. Follow the detail lines with a small liner brush or a fine-tip Sharpie, using a contrasting color. Apply glitter paint to the wings and horn, if desired. I glued a small rhinestone to the eye area. You could also add polka dots with the end of a toothpick. Another option is to color the pieces with crayons and then heat them with a hair dryer to soften the wax. Buff with a paper towel.

Materials & Tools

Materials

- Wood, such as MDF, $\frac{3}{8}$ " (1cm) thick: 10½" x 12" (26.7cm x 30.5cm)
- Sandpaper: 220-grit
- Graphite or carbon paper, or pattern transfer materials of choice
- Pencil
- Acrylic craft paints: assorted
- Glitter paint: ultra-fine (optional)
- Glue: cyanoacrylate (CA)
- Rhinestones: $\frac{1}{8}$ " (3mm) flat (optional)
- Sharpie: fine-tip (optional)
- Crayons (optional)
- Toothpicks (optional)
- Finish, such as clear spray lacquer
- Paper towels

Tools

- Scroll saw with blades: #7 MGT
- Paintbrushes: assorted
- Hair dryer (optional)

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



Dave Van Ess is a retired engineer living in Chandler, Ariz. He has been woodworking for 45 years and scrolling for 35. He is the past president of the Arizona Woodworkers (a greater Phoenix area woodworking club), and volunteers his time and resources to providing wood projects for kids. E-mail him at davevaness21@gmail.com.

HEAT



Methods of Pattern Transfer

Traditionally, scrollers have made copies of patterns and attached them to the wood with spray adhesive. This works out well for saw-only projects. What about the patterns with details that will be painted, drawn on with felt pen, wood burned, or carved? These are lost when the pattern is removed. Below, I've detailed a few alternatives to adhesive. All of the options have advantages and disadvantages. Test out a few and determine which works best for you.

Heat Transfer

Make a mirror-image copy of the pattern with an ink or laser printer or copier. Place the pattern face down on the wood and press it down with a hot iron. As you slowly peel away the pattern, you can go back and apply more heat and pressure to places that haven't transferred.

Pros: The detail transfers from the pattern and not traced.

Cons: You need a machine to make the mirror image of the pattern.

Pencil

Attach the pattern to the wood, make your cuts, and remove the pattern. Then draw, by hand, the details using your original pattern as a guide.

Pros: Easiest and straightforward; all you need is a pencil.

Cons: If you don't excel at freehand art, this method might present a challenge.

ACETONE



Acetone Transfer

This is similar to the heat transfer method, except you use an acetone squeegee to transfer the pattern.

Pros: Results in sharper details than heat transfer.

Cons: Acetone may affect any finish on the wood. You are working with a chemical, so consider wearing rubber gloves.

Carbon or Graphite Paper

Tape one edge of the pattern to the wood. Lift up the pattern and place carbon or graphite paper under it, dark side down. Replace the pattern and trace only the details. Remove the carbon or graphite paper and glue down the pattern. Make your cuts and remove the pattern. The copied details will remain.

Pros: It is easier to trace than to draw.

Cons: Pattern may shift between tracing and attachment.

LASER



Electric Engraver

Attach the pattern to the wood, cut it out, and engrave the details before removing the pattern. (You could also use a woodburning tool to burn the details through the pattern.)

Pros: You don't have to face alignment challenges.

Cons: A very steady hand is required.

Laser

Etch the pattern perimeter and details directly onto the material.

Pros: No hassle or expense of copying patterns, gluing them to the material, or removing the pattern after cutting.

Cons: Lasers can be cost-prohibitive.

Classic Toy Helicopter

Patrol the skies in style with this sleek hardwood flier

By Brad Anderson

Whether reporting on news, following a car chase, or just zooming through the air for the joy of it, the helicopter provides kids with hours of high-flying fun. This toy is equipped with landing skids and propellers that spin, so you can take an afternoon of play to the next level. Small and compact, the design allows you to mix and match contrasting wood scraps for a classic, “old-fashioned toy” feel.

TIP

STACK 'EM UP

A few of the elements in this project can be cut en masse. It is more time-efficient to cut multiples of the skids and sides than to scroll them individually.

Getting Started

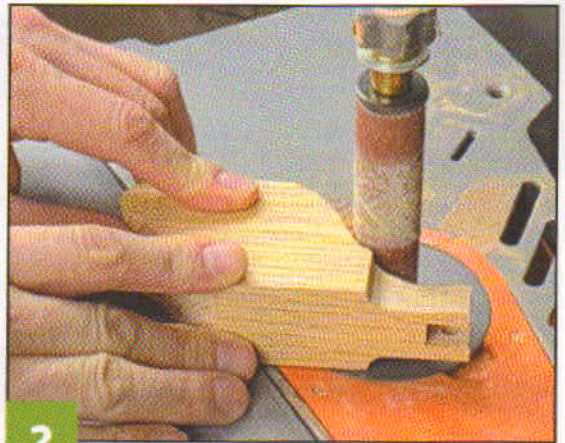
Fold the pattern for the main body on the dotted line and attach it with repositionable adhesive to its blank. Attach the patterns for the smaller pieces, such as the tail and sides, to their respective blanks; I typically sketch mine on using a white colored pencil. Mark and drill a $\frac{1}{4}$ " (6mm)-dia. hole in the center of each rotor section on the uncut blank. Drill the hole in what will be the rotor mount using the $\frac{7}{32}$ " (5.6mm)-dia. bit.

CUTTING & ASSEMBLING



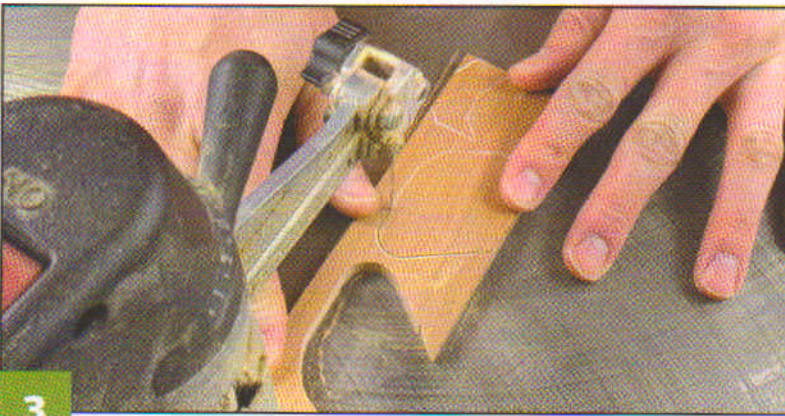
1

Cut the body. Drill a hole $\frac{3}{4}$ " (1.9cm) deep at the tail end, where indicated on the pattern. Use a $\frac{7}{32}$ " (5.6mm) -dia. bit. Cut the top view with a #7 reverse-tooth blade. Tape the curved waste back into place with clear packaging tape, then cut the side profile.



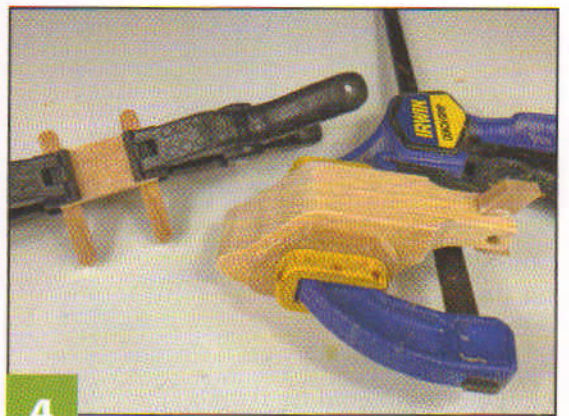
2

Sand the body curves. Use a spindle sander for the incurving areas and a belt sander for the out-curving areas. Make sure the bottom of the helicopter body remains flat throughout the sanding process.



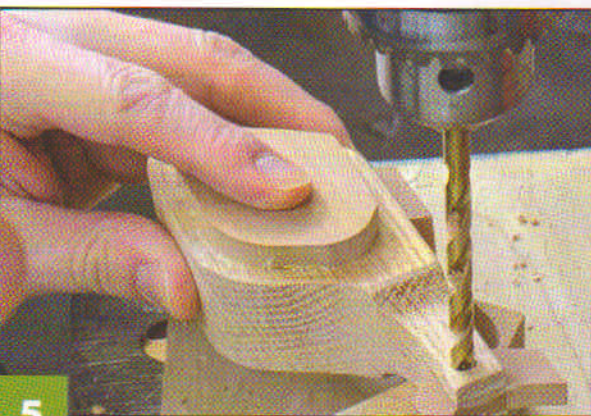
3

Cut the remaining pieces. Use a #3 reverse-tooth blade. Sand a slight bevel on the sides of the rotor mount, skid platform, and skids using the belt sander. Hand-sand all of the pieces, moving up progressively through the grits from 150 to 320. Ease all sharp edges and corners. Dry-fit the tail into the back slot. If the tail is too large, sand it down to size; if it is too thin, add a small piece of scrap as a wedge until the fit is tight.



4

Glue and clamp the sides, body, and tail together. Then do the same for the skid platform and skids.



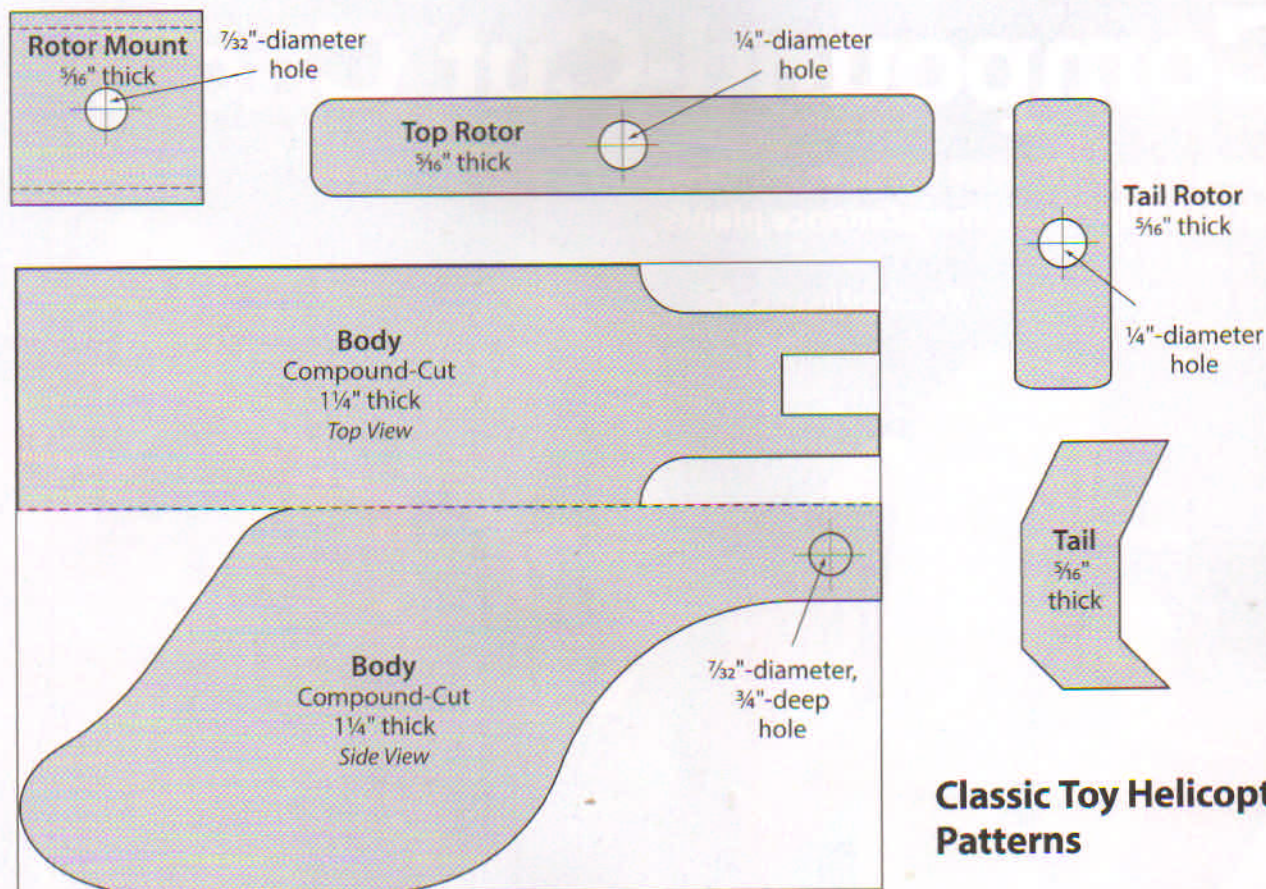
5

Prepare the tail area. Using the same $\frac{7}{32}$ " (5.6mm)-dia. bit as before, deepen the existing hole in the side of the tail to $\frac{5}{8}$ " (1.6cm).



6

Add the finishing touches. Glue and clamp the skid platform and propeller offset to the body. Attach the rotors with wooden axle pegs, coating just the bottom of each peg with wood glue and then securing them in place with a hammer. Then finish the toy with 2-3 coats of a child-safe finish, such as clear spray shellac.



Classic Toy Helicopter Patterns

© 2021 Scroll Saw Woodworking & Crafts

Materials & Tools

Materials

- Wood, such as cherry, $\frac{5}{16}$ " (8mm) thick: rotors, sides, tail, skids, skid platform, $1\frac{3}{4}$ " x $8\frac{1}{2}$ " (4.4cm x 21.6cm)
- Wood, such as oak, $1\frac{1}{4}$ " (3.2cm) thick: main body, 2 " x $4\frac{5}{8}$ " (5.1cm x 11.7cm)
- Wooden axle pegs, $\frac{7}{32}$ " (5.6mm)-dia.: 2 each
- Spray adhesive: repositionable
- Colored pencil: white (optional)
- Tape: clear packaging
- Sandpaper: assorted grits up to 320
- Wood glue
- Child-safe finish, such as clear spray shellac

Tools

- Scroll saw with blades: #3, #7 reverse-tooth
- Drill press with bits: $\frac{1}{4}$ " (6mm), $\frac{7}{32}$ " (5.6mm)-dia.
- Sanders: spindle, belt
- Hammer
- Clamps

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



Brad Anderson has been a hobbyist woodworker for about 20 years. He started designing and building furniture but quickly ran out of places to put it. After the birth of his first child, he discovered a love for toymaking and has been designing them ever since. He donates many of his creations to local toy drives. Contact Brad at sawdustsplinters.blogspot.com or see more of his work on Etsy at AllNaturalToyPlans.

Compound-Cut Cacti

Populate your favorite ledge or windowsill with a family of low-maintenance plants

By Sue Mey

Cut by the Staff of Scroll Saw Woodworking & Crafts



If you lack a green thumb, cacti might just be the plants for you—especially these! Simple and cute with no internal frets, my designs are excellent for those interested in trying compound cutting for the first time. They're small enough to cut quickly without overwhelming your saw, and all you need to make them shelf-ready are toothpicks and a hint of paint.

Getting Started

Cut the pattern blank to size, making sure that the sides are flat and at a 90° angle to each other. Photocopy the pattern, fold it on the center line, and apply adhesive to the back with a repositionable glue stick. Align the fold with the corner of the blank and press the pattern into place.

Select a blade size appropriate for the thickness and hardness of the wood being used. I used a #7 reverse-tooth blade for cutting the cacti from pine, but consider a #9 for something harder, such as maple or walnut.

Cutting and Sanding

Cut the first pattern view. Once done, hold the workpiece and the waste in place and vacuum away the dust. Wrap the entire block (waste and all) in clear packaging tape, rotate the blank, and cut the second pattern view.

Carefully remove the waste wood and sand the piece with 120-grit sandpaper. Then move up progressively through the grits until you reach 320.



Materials & Tools

Materials

- Wood, such as pine, 1 $\frac{3}{16}$ " (3.3cm) square: length sized for patterns
- Wooden toothpicks, $\frac{1}{16}$ " (2mm)-dia.
- Glue stick: repositionable
- Tape: clear packaging
- Sandpaper: assorted grits to 320
- Wood glue (optional)
- Finish, such as clear satin spray varnish
- Acrylic paints: assorted colors (optional)

Tools

- Scroll saw with blades: #7 reverse-tooth
- Drill press with bit: $\frac{1}{16}$ " (2mm)-dia.
- Vacuum
- Square (optional)
- Brush: stiff-bristled
- Paintbrushes: assorted (optional)
- Pliers
- Scalpel
- Tweezers

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

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

Remove the sanding dust with a stiff-bristled brush.

Drill holes for the thorns. Clamp the workpiece to the drill bit table, then carefully lower the drill bit into the cactus at the angle you wish the spine to stand out.

Cover the surface of the cactus with as many randomly placed holes as you like. Adjust the depth of the holes based on the thickness of each cactus.

Finishing and Adding the Thorns

Apply a finish. For a natural piece, apply several thin coats of clear spray varnish, allowing each coat to dry completely before applying the next. For painted pieces, use acrylics in various shades of green and blue for the top parts and paint the pots as desired.

Add the thorns. Cut a handful of toothpicks to size; I used side-cutting pliers, sharpening any pieces that did not naturally come to a point with a scalpel. Insert the toothpicks into the drilled holes with a pair of tweezers. My pieces were tight enough not to need any glue, but you could use small dabs of wood glue if necessary. Let dry and display.



*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.*

Turning Kids' Drawings Into Scroll Sawn Art



Preserve your young artist's work in a medium that won't crumple or tear

By Megan Yardley

A few years ago, my sisters and I were having a craft night. As we discussed what kind of project we wanted to make for our next one, my sister started showing me pictures from Instagram of people making beautiful signs with a scroll saw. I fell in love with what I saw and within a few weeks had purchased my own saw. The first thing I cut was a drawing that my five-year-old nephew had made for me, with the words "I love you" at the top. Once I finished cutting it out, I couldn't believe it—it worked, and it looked adorable!

Turning a child's drawing into scroll sawn art is a breeze once you get started. Here's my simple, five-step process.

Plan the Lines

Photocopy the drawing and set the original aside. Look over the photocopy and decide how you want to divide the elements. Most of the time, I divide pieces along the color lines indicated in the drawing. You could paint some of these details on later rather than cutting each tiny piece, but I find

that cutting as many pieces as possible gives the finished scene more impact. (For an important exception to this rule, see *Cutting Between the Lines* at right). When outlines or text are involved, as in *Dax* (see page 52), or if lines are particularly thin, as in *Nativity* (see page 54), I bulk those areas up slightly to increase the structural integrity of the pieces. Mark up the photocopied drawing with a pen, so you can reference it later while cutting. I try to resist the urge to “neaten up” the design too much, because the flaws and jagged lines in a child’s drawing are what make it so special. This also makes the piece easier to cut, because it doesn’t have to be perfect!

Plan the Layers

Decide which pieces you would like layered. For example, if you want to give the eyes some dimension, plan to cut the pupil and iris from different pieces of wood, so one can sit on top of the other. In the scrolled version of *Belle* (see page 54), I chose to layer the dress details on top of the piece for the dress, and the face details on top of the face piece. Be sure to print extra copies of the drawing/pattern based on the number of individual layers you will have.

Choose the Right Materials

Plan your background; I typically use ¾" (1.9cm) plywood, pine, or birch, as they’re affordable and their light color is easy to paint over. For cutting out the drawing, I typically use ¼" (6mm) MDF, which is pliable and easy to sand (especially for tiny details). You could also use plywood for particularly delicate areas, if desired.

Cut and Finish the Pieces

Cover your respective blanks with blue painter’s tape, and then attach the marked-up photocopies of the drawing to the surface with spray adhesive. For really tiny pieces and thin lines, I use a #2 blade. *Note: You could use a larger blade, but this can cause the wood to break more easily.* Cut the pieces and remove the patterns and tape. You may need to number the backs of the pieces to help with assembly later. Hand-sand the pieces to soften any sharp edges and remove fuzzies. You could also use an orbital sander for larger areas.

Add color. I recommend spray paint for as smooth a finish as possible, as long as the colors match the original drawing. If you can’t match the colors with spray paint, mix up some craft store

Cutting Between the Lines

Sometimes, with drawings that consist only of intersecting lines—such as Clara’s at right—I choose to keep the lines connected rather than separating them by color. This keeps me from having to cut too many microscopic pieces that might get lost. It also makes assembly easier.



acrylics instead. While the pieces dry, prepare the background. I sometimes paint mine white to mimic the original paper of the drawing; for room signs, such as Dalton’s (see page 54), I use assorted stains to make the grain pop.

Assemble and Display

The most challenging part is gluing down the finished piece; it can feel like you’re putting Humpty Dumpty back together again. In the end, the result outweighs any frustrating moments, as you have a truly wonderful memory to hang in your home gallery. Place all of the pieces on the background in the desired positions. Glue each piece down individually, using tweezers, if necessary, for the really small pieces.

Add a frame. I make my own frames using 1x2 boards from Home Depot®. I cut them down to size with a miter saw and assemble them using a nail gun, sometimes applying paint to contrast with the background (see *I Love You, Mom*, page 54). It’s nothing fancy, but they’re fairly easy to do and give the piece a nice “finished” look.

Turning a kid’s drawing into wooden art is worth trying at home. I’ve found it to be simple, meaningful, and endlessly customizable—and it lasts far longer than a child’s construction-paper drawing!



Megan Yardley lives in Kaysville, Utah. She enjoys traveling the world, riding horses, and being with her family. See more of Megan’s creations on Instagram @sassy_sawdust_designs.

KID ART Gallery

Dalton.



Belle.



I Love You, Mom.



Penguin.

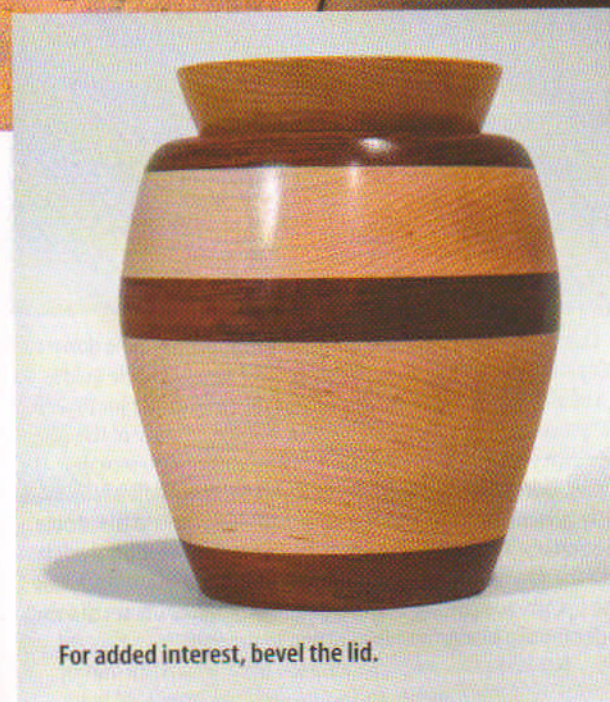


Nativity.

Elegant Ringed Caddy

Hey, it's teatime somewhere! Use this smooth jar to safely store loose tea bags or leaves

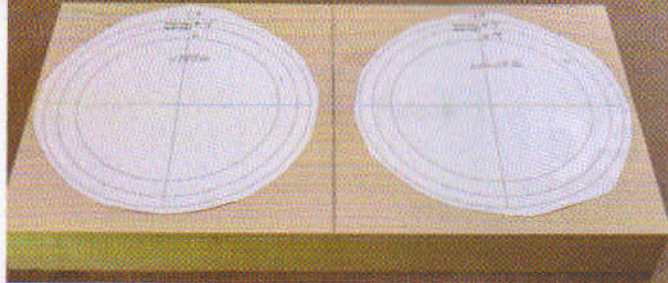
By Carole Rothman



For added interest, bevel the lid.

Wooden kitchenware has a warmth and charm that plastic can never achieve. With that in mind, I decided to make a wooden tea caddy that combined beauty and functionality. I chose hard maple for its durability, pairing it with richly toned bubinga for an elegant contrast; I used stacked rings to create the rounded profile. The caddy features a smooth, unfinished interior and generous top opening for ease of access.

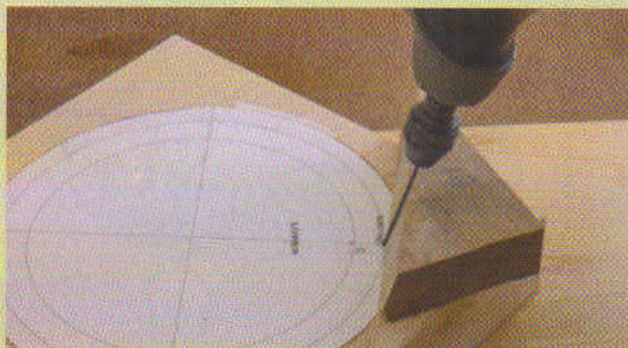
Construction is not difficult, but the multiple components must be marked carefully to avoid confusion. Detailed instructions will help you drill blade-entry holes accurately, preserve grain alignment during glue-up, and maintain the profile as you sand. Several coats of spray shellac, buffed to a soft sheen with a sanding mop, provide a finished look with minimal effort.



Getting Started

Prepare the blanks. Draw a horizontal line 3" (7.6cm) down from one long edge of the 11 1/2" (29.2cm) piece of maple. Draw a vertical line down the center. Using repositionable spray adhesive, attach one copy of the pattern for the upper and lower rings to each half, matching the horizontal lines of the patterns and wood. Label one pattern for the upper ring and the other for the lower rings. Mark a "T" at the top of each pattern ring; transfer this mark to the wood as the rings are cut to ensure correct grain alignment as you glue the pieces later. Cut the vertical line between the patterns to create two separate blanks. Then attach the pattern for the center ring and bottom piece to the 5/8" (1.6cm)-thick piece of bubinga.

Blade-Entry Holes in Thick Wood



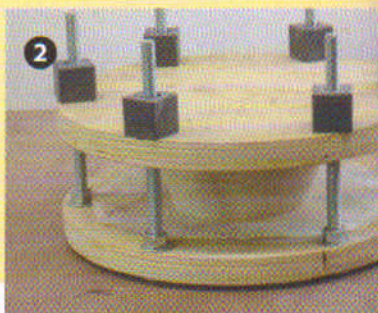
In this project, you will be drilling some very precise blade-entry holes into thick maple. Follow these simple steps to ensure success:

- **Gather your tools.** For a #7 blade, use a wire size #56 drill bit, at least 1 3/4" (4.4cm) long. If not available, a 1/16" (2mm)-dia. bit can be substituted.
- **Mark the drilling point.** Use an awl, holding the tool vertically. If drilling on a cut line, make sure the awl is centered on the mark. Press down firmly, then angle the awl slightly toward the center of the blank. This helps control slippage as you start to drill.
- **Set the angle.** Use an angle guide cut from 5/8" (1.6cm)-thick stock. This is thick enough to set the angle correctly while providing maximum contact with the bit. Slide the guide away to complete the drilling.
- **Drill the hole.** Extend the bit fully for maximum contact with the angle guide. Drill in small increments to keep the bit cool and reduce the likelihood of breakage.

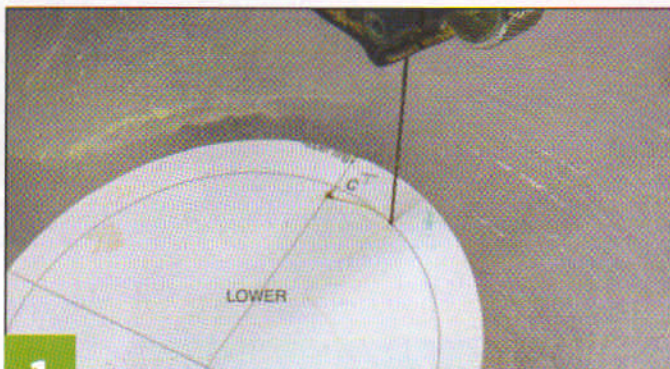
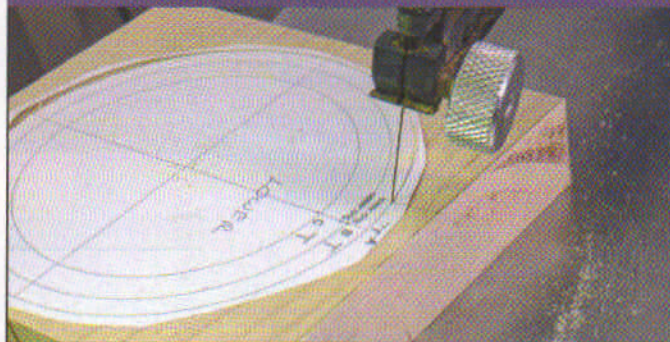
Technical Notes

(1) Tilting the saw table down to the left is the equivalent of tilting the saw arm down to the right.

(2) A bowl press, easily made from carriage bolts and plywood, is an effective way to apply downward pressure; boards and clamps can be substituted but are more difficult to control.



CUTTING THE RINGS & ASSEMBLING THE BOTTOM SECTION

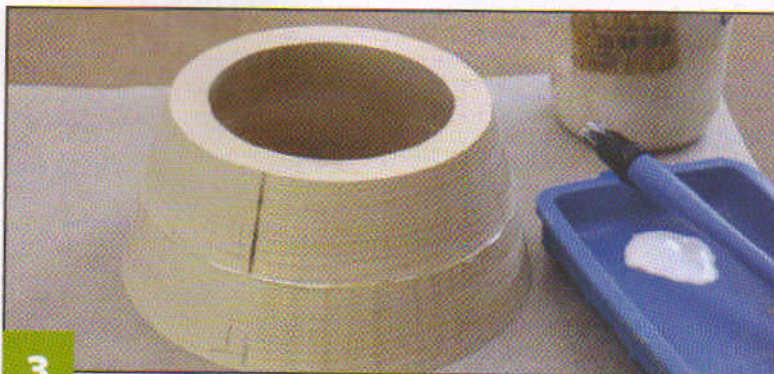


1

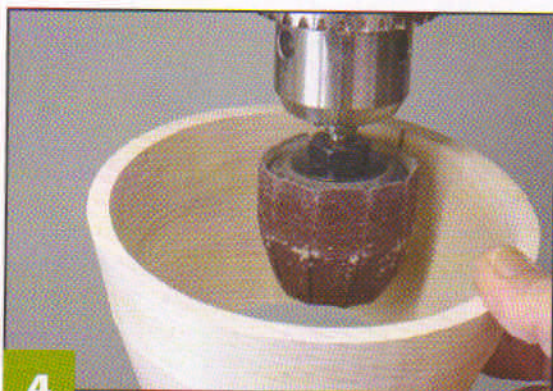
Cut the lower rings. Tilt the left side of the saw table down to 13°. Cut circle A at 13°, cutting clockwise. Using an 18° angle guide, drill a blade-entry hole where marked on the cutting line for circle B, drilling toward the center of the pattern. Tilt the left side of the saw table down to 18°, insert the blade, and cut clockwise to complete the first ring. Using a 23° angle guide, drill a blade-entry hole at the mark slightly below the cutting line for circle C, drilling toward the center of the pattern. This places the drill mark in a waste area. Tilt the left side of the saw table down to 23°. Insert the blade and cut clockwise to line C. Continue cutting all the around to complete the second ring. Transfer the top marks from the pattern to the rings.



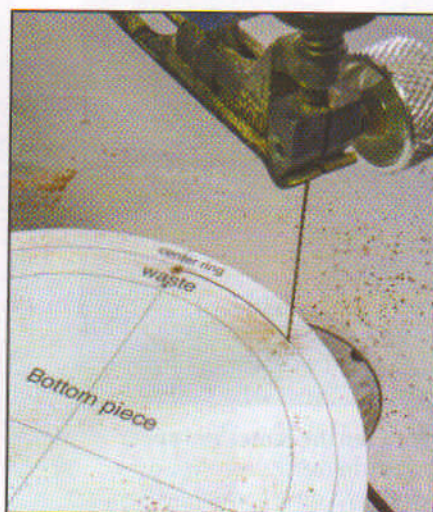
2 **Cut the upper ring.** Follow the instructions from Step 1 to cut circle A. Drill an 18° blade-entry hole toward the center of the pattern at the mark slightly below the cutting line for circle B. This places the hole in a waste area. Tilt the left side of the saw table down to 18°. Insert the blade, cut clockwise to circle B, then cut around the circle to complete the ring. Transfer the top mark to the ring. Set the ring aside until Step 8.



3 **Prepare the lower rings.** Transfer the top marks on the lower rings to their inner and outer faces. Do the same with the line segments. Remove all pencil marks from the gluing surfaces; be sure they are clean and smooth. Stack the lower rings, aligning the top marks and line segments. Check for spaces between the rings; eliminate any by sanding away high areas with a sanding tile. Remove fuzzies from the edges. Glue the rings together and press down to set the bond. Wipe away any excess glue, clamp with a press or clamps and boards, and let the glue dry.



4 **Sand the interior.** Use a round inflatable sander, starting with the coarse sleeve and then moving to the medium. Leave the upper 1/4" (6mm) unsanded. Sand the inside of the bottom ring into a smooth circle.



5 **Cut the center ring and bottom.** With the saw table level, cut the outermost circle from the piece of bubinga, cutting just to the outside of the cut line. Drill a straight blade-entry hole in the waste area, where marked. Insert the blade and cut the second circle to complete the center ring, cutting just to the drilled side of the line. Tilt the left side of the saw table down 23° and cut clockwise on the remaining circle to cut the bottom piece; set it aside until Step 7.



6 **Add the center ring to the assembly.** The grain of both pieces should run in the same direction. Check for spaces, and then glue the center ring in place, making sure the edges are flush. Clamp and let the glue dry fully. Use the coarse and medium sleeves to sand the joined area into a smooth, continuous curve, but leave the upper 1/4" (6mm) section unsanded. Sand the entire interior, except for the upper 1/4" (6mm) section, with a fine sleeve.

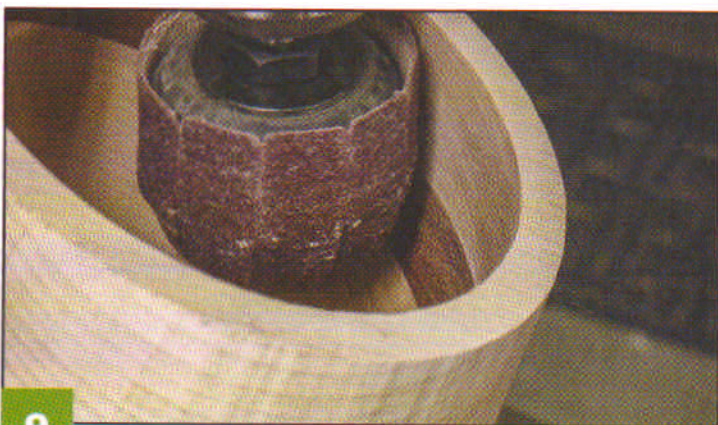


7 **Sand the upper face of the bottom piece to 320-grit.** Place the lower ring assembly on the bottom piece, with the grain running in the same direction. Check for spaces. Apply glue evenly to the underside of the smallest ring, except for the innermost 1/8" (3mm) section, to minimize squeeze-out. Invert the bottom piece on the smallest ring and press down to secure the bond. Clamp the assembly briefly, and then remove the clamps to check for and correct any slippage. Clean up squeeze-out, re-clamp the piece, and let the glue dry.



8

Sand the inside of the upper ring. Use the round inflatable sander and medium sleeve to remove irregularities and smooth the surface. Be careful not to remove wood from the upper and lower gluing faces. Invert the upper ring on the center ring, making sure that its top mark is aligned with those of the lower ring set. Check for spaces. Apply glue to the center ring and press the upper ring into place. Move it as needed to obtain the best alignment of the inner edges. Clamp the rings briefly to set the bond, remove the clamps to check for slippage and use a toothpick to scrape away squeeze-out from the inside joint. Re-clamp the unit and let the glue dry.



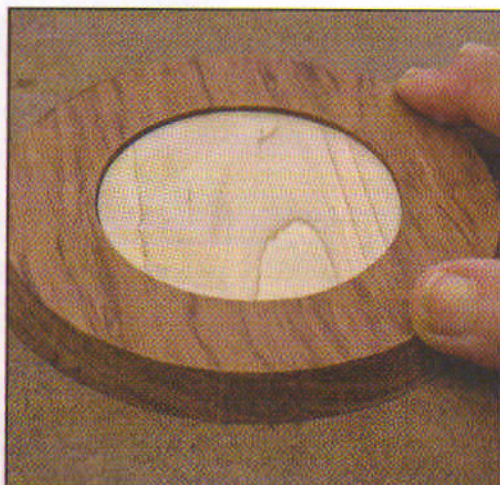
9

Sand the inside of the joint between the center and upper rings. Use the round inflatable sander and the coarse sleeve. When the joint is smooth, sand this area into a continuous curve from the center ring to the top opening. Avoid sanding below the center ring or you're likely to gouge the adjacent maple ring. Once the shape is established, switch to the medium sleeve to refine the surface, and then finish with the fine sleeve. The surface should be free of glue residue and feel smooth to the touch.



10

Cut the top ring. Attach the pattern for the top piece to the $\frac{3}{8}$ " (1cm) bubinga. Tilt the left side of the saw table down to 23° and cut the outer circle in a clockwise direction. Drill a straight blade-entry hole where indicated on the pattern. With the saw table and blade perpendicular, insert the blade, and cut the circle, slightly inside the cutting line. Sand to the line with a spindle sander.



11

Cut the lid liner. Use the center circle of the pattern for the top piece. Cut just to the outside of the innermost circle and use a belt sander to sand to the line. Place the lid liner in the opening of the top piece and rotate to check the fit. If it binds or is too tight, use the pattern and the awl to mark the center on the gluing side of the lid liner and draw a circle with a compass about $\frac{1}{16}$ " (2mm) in from the circumference. This will help you sand evenly as you reduce the size. Using the belt sander, remove wood in small increments, checking frequently, until the lid liner rotates freely in the top opening with little play. Set the lid liner aside until Step 16.

SHAPING THE EXTERIOR



12

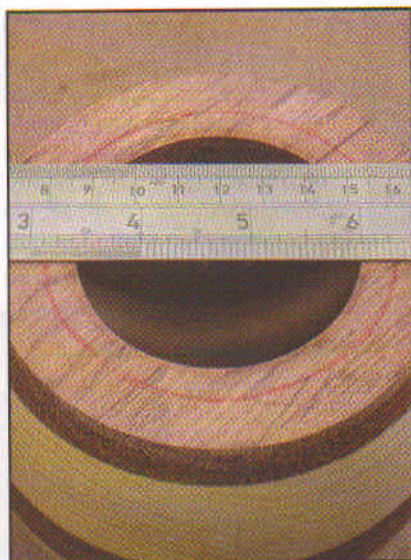
Add the top piece to the upper ring.

Be sure the mating surfaces are clean and free of fuzzies, and that the grains run in the same direction. Check for spaces. Apply glue to the upper ring, making sure the entire surface is evenly covered. Place the top piece into position with edges aligned; press down firmly. Clamp the unit briefly, remove the clamps to check for slippage, re-clamp, and let the glue dry.



13

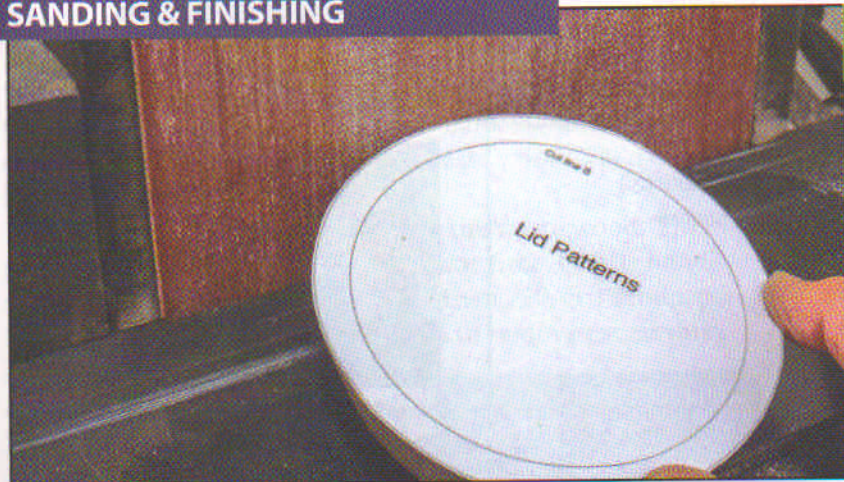
Shape the outside. Start by sanding the area where the top piece and upper ring meet, rotating the workpiece as you go. Use a 2" (51mm) flexible pad sander and 80-grit disc; do not sand the upper edge of the top piece. Then sand the area where the upper and center rings meet. Sand the three pieces into a smooth curve. Next, sand the area where the center ring and adjacent lower ring meet, then sand the remainder of that ring. Finally, sand the joint between the bottom piece and the lowest ring. Once it is smooth, move upwards toward the previously sanded areas to create a continuous curve. When the shape has been established, sand progressively through the grits to 180. As you sand, check the surface carefully for flat or uneven areas, drill and blade marks, and swirl marks created by the rotating disc.



14

Contour the top edge. Start by drawing a circle with a pencil, $\frac{5}{16}$ " (8mm) from the edge of the opening, to define the area that must be kept flat for the lid to seat correctly. Use a small pneumatic drum with a medium-grit sleeve to soften the outer edge and a 2" (51mm) flexible pad sander with a 120-grit disc to shape the top piece into a curve that runs smoothly into the upper surface. Soften the bottom edge of the caddy with a pneumatic drum. Use the pad sander and 150- and 180-grit discs to refine the surface of the newly shaped areas. Finally, sand the entire exterior using a 2" or 3" (51mm to 76mm) flexible pad sander with a soft pad to sand through the grits from 180 to 320. This pad, available as a stand-alone tool or add-on piece, lets you refine the surface and remove scratch marks without affecting the shape. Hand-sand the curved area and bottom edge, if needed, and soften the edges of the center opening.

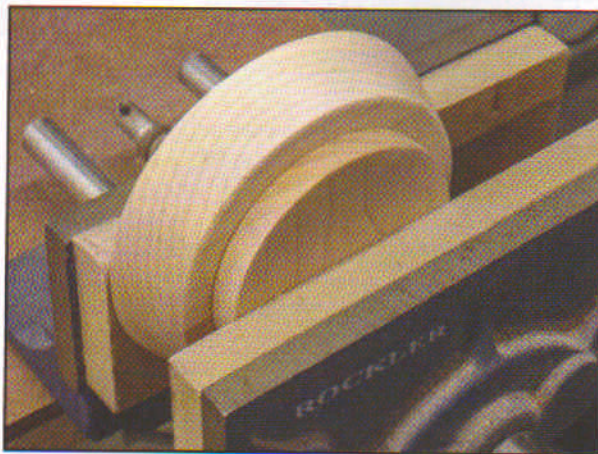
SANDING & FINISHING



15

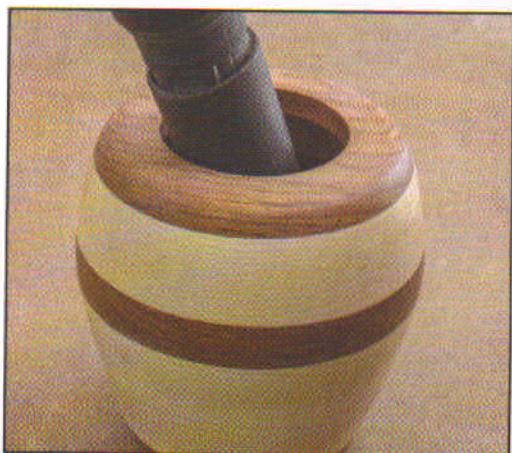
Attach the lid pattern to the maple.

To make the beveled version of the lid, tilt the left side of the saw table down to 21°. Cut line A in a clockwise direction, cutting just to the outside of the line. Set the belt sander table to 21° and sand to the line. Sand the bevel and upper surface with a flexible pad sander, sanding gradually through the grits to 320. Round the edges with a Mac Mop or by hand. *Note: To make the straight-sided lid, cut the pattern on line B with saw blade and table perpendicular. Cut just to the outside of the line. Set the table of the belt sander perpendicular to the belt and sand to the line, then follow the above instructions.*



16

Finish the lid. Sand the gluing surfaces of the lid and lid liner until clean and smooth. Invert the lid. Place a loop of blue painter's tape in the middle. Center the lid liner on top and press down to secure the attachment. Place the lid assembly into position on the tea caddy and rotate it; the bubinga margin of the top piece should be equal all around. If not, adjust the lid liner and indicate the correct gluing position with pencil marks. Separate the lid and liner and remove the tape. Apply an even coat of glue to the lid liner, keeping it about ¼" (6mm) from the outer edges. Position it on the lid and apply clamping pressure. The easiest way to do this is in a vise, clamping the assembly in sections to reach all areas. Since slippage can occur from clamping pressure, place the lid on the caddy to check its position; if the lid liner has slipped out of place, return it to its original position. Clamp the lid briefly in a press, and then re-check the positioning. Finally, remove any squeeze-out with a toothpick, clamp the lid assembly, and let it dry.



17

Remove sanding dust from the inner and outer surfaces.

Use a vacuum for the interior space. Apply a coat of spray shellac to seal the outside, top opening, and lid. Sand the surface smooth with 320-grit sandpaper or buff with a 320-grit sanding mop. Remove all sanding dust. Apply one or two additional coats of shellac, rubbing with 0000 steel wool between coats, or buffing with the 320-grit sanding mop.

Materials & Tools

Materials

- Maple, 1⅞" (2.9cm) thick: upper and lower rings, 1 each 6" x 11½" (15.2cm x 29.2cm)
- Maple, ¾" (1.9cm) thick: lid, 1 each 4" (10.2cm) square
- Maple, ⅝" (8mm) thick: lid liner, 1 each 3" (7.6cm) square
- Bubinga, ⅝" (1.6cm) thick: center ring and bottom, 1 each 5½" (14cm) square
- Bubinga, ⅜" (1cm) thick: top piece, 1 each 5" (12.7cm) square
- Spray adhesive: repositionable
- Wood glue, such as Weldbond
- Sandpaper: assorted grits
- Finish, such as clear spray shellac
- Toothpicks
- Tape: blue painter's
- Steel wool: 0000

Tools

- Shop-made angle guides, ⅝" (1.6cm) thick: 18° and 23°
- Scroll saw with blades: #7 skip-tooth

- Drill with bit: #56 wire size, 1¾" (4.4cm) long (preferred); or ⅜" (2mm)-dia.
- Shop-made sanding tile (12" [30.5cm] square granite tile with 150-grit sandpaper sheet attached with repositionable adhesive)
- Bowl press (preferred) or assorted clamps and boards
- Small vise (optional)
- Sanders: spindle; vertical belt; round inflatable with coarse, medium, and fine sleeves; small pneumatic drum with coarse sleeve; flexible pad sander with 2" (51mm) standard pad, 3" (76mm) soft pad, and assorted grit discs
- Sanding mop: 320-grit (optional)
- Mac Mop: 240-grit (optional)
- Vacuum
- Awl
- Compass

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

FURTHER READING

Scroll Saw Wooden Bowls, Revised & Expanded Edition

By Carole Rothman

Item 9616. Available for \$19.99 plus S&H (parcel post) from Fox Chapel Publishing, 800-457-9112, FoxChapelPublishing.com, or your local retailer.



Patterns for the **ELEGANT RINGED CADDY** are in the pullout section.



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.

Compound-Cut Water Bird

These elegant egrets will give you no regrets

Designed by Diana Thompson
Cut by Joe Pascucci

Known for their S-shaped necks and luxurious tail plumes, egrets don't just cut a striking profile. They're expert fishermen, often standing still in shallow water for long stretches of time until they can catch their prey (mostly fish and frogs) with a quick stab of the beak.

Given the delicacy of some of the project elements, such as the grasses and the egret's long neck, I recommend avoiding any soft, porous woods such as basswood or pine. These will not provide enough stability through the cutting process.

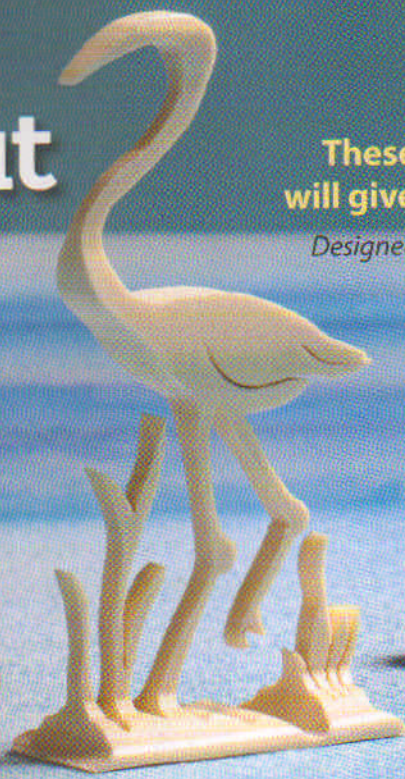
Cutting and Finishing

Cover two adjacent sides of the blank with blue painter's tape and attach the pattern to the surface of the tape with spray adhesive. *Note: Make sure the fold on the dotted line corresponds to a corner.* Carefully cut the side view, as it is more complex. I used a #5 skip-tooth blade for this side, but you can adjust blade size depending on your wood selection. Once the first side is cut, rotate the blank 90° and wrap it with clear packaging tape to secure the waste wood. Then cut the front view with a #7 blade.

Carefully remove the egret from the waste wood. This piece is extremely delicate, so take your time. Gently hand-sand any rough areas with 180- and then 220-grit sandpaper. Buff the piece with a clean, dry cloth to remove excess dust.

Note: You could also use a can of compressed air. Finish as desired; I used two to three coats of clear spray lacquer.

Pattern for the **COMPOUND-CUT WATER BIRD** is in the pullout section.



Materials & Tools

Materials

- Wood, such as holly or maple, 3/4" (1.9cm) thick: 1 1/2" x 3" (3.8cm x 7.6cm)
- Tape: blue painter's, clear packaging
- Spray adhesive
- Sandpaper: assorted grits

- Clean cotton cloth
- Finish: clear spray lacquer (satin or gloss)

Tools

- Scroll saw with blades: #5, #7 skip-tooth

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

FURTHER READING

3-D Patterns for the Scroll Saw (Revised Edition)

By Diana Thompson

Item 8480. Available for \$14.99 plus S&H (parcel post) from Fox Chapel Publishing, foxchapelpublishing.com, 800-457-9112, or your local retailer.



Diana Thompson of Theodore, Ala., is the author of numerous articles and books about compound cutting. For more of her work, visit foxchapelpublishing.com.

The Puzzle Zoo

South Korean artist Jaeheon Yun turns “families” of animals into massive wooden constructions

By Kaylee Schofield

The River Han flows through the center of Seoul, South Korea’s most populous city; then it winds east, past more intimate locales such as Yangpyeong. Jaeheon Yun and his family reside here—between a porridge restaurant and a karaoke bar, a few minutes from the water. They’ve been settled for just a month, since flooding prompted an unexpected move, but Jaeheon’s new two-room workshop already feels like home; his nine-year-old son, Jimin, can often be found there, “testing” his father’s puzzles or playing with origami at a workbench.

“Because of COVID-19, Jimin only goes to school one to three days a week now—so he often follows me around the workshop or helps vacuum,” Jaeheon said wryly. “When he turns ten, I’m going to teach him the scroll saw.”

Really, his son Jimin is how the puzzle business all started. After graduating from Seowon University with a degree in industrial design, Jaeheon moved to Australia and began working at an Italian restaurant. He loved pasta-making but always found himself craving a different kind of creative pursuit. Then, when his wife Hoyoung Seo became pregnant with their first child, the wheels started turning.

“We wanted to make something for our baby with our own hands,” Jaeheon recalled. Then he discovered the scroll saw. Although puzzle design was not a



Jaeheon Yun (above) credits his son, Jimin, (at left) with the inspiration for his puzzle business.

popular art form in South Korea, he began dabbling in jigsaw puzzles, adapting the classic tab-and-blank pieces into cute, stylized animals reminiscent of those found in Japanese toys. Animal pieces that interact with each other in a larger project, he says, are like little “families.”

“Each animal has a distinct personality and different emotions,” Jaeheon said. “I like to gather those personalities, one by one, and put them together.”

At first, he made puzzles from easy-to-obtain pine, but switched to a spectrum of colorful hardwoods to reduce the chances of breakage during play (beech

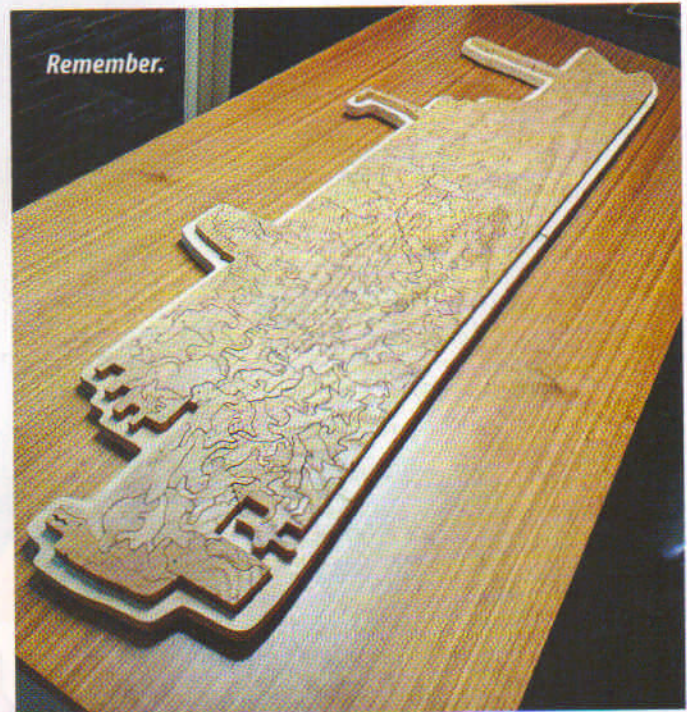
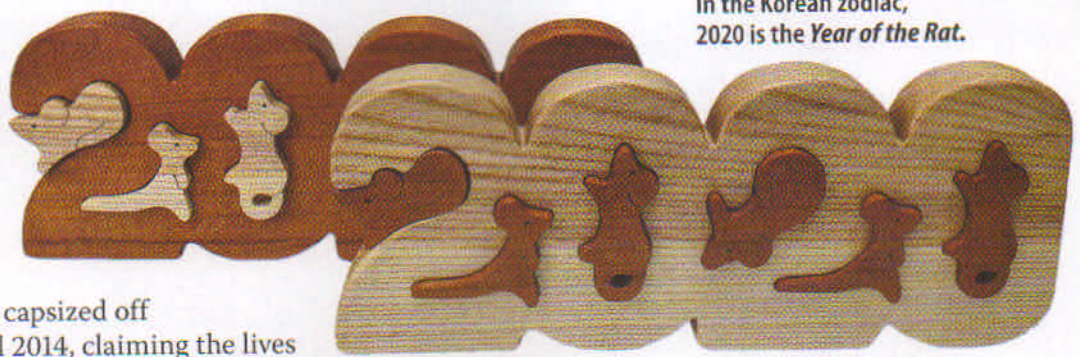
is his favorite). For the same reason, he prefers simple, eco-friendly oil finishes, ensuring that his creations last a long time and are safe for children.

Jaeheon's puzzles aren't always strictly for kids. When the *Sewol* ferry capsized off Byeongpung Island in April 2014, claiming the lives of 304 passengers (around 250 of whom were high schoolers), his community was overcome with grief. "I realized that I could create something symbolic to remember them...so I designed the 304-piece *Remember* puzzle to cherish the victims," he said. "I had to focus on conveying meaning rather than just making pretty animals."

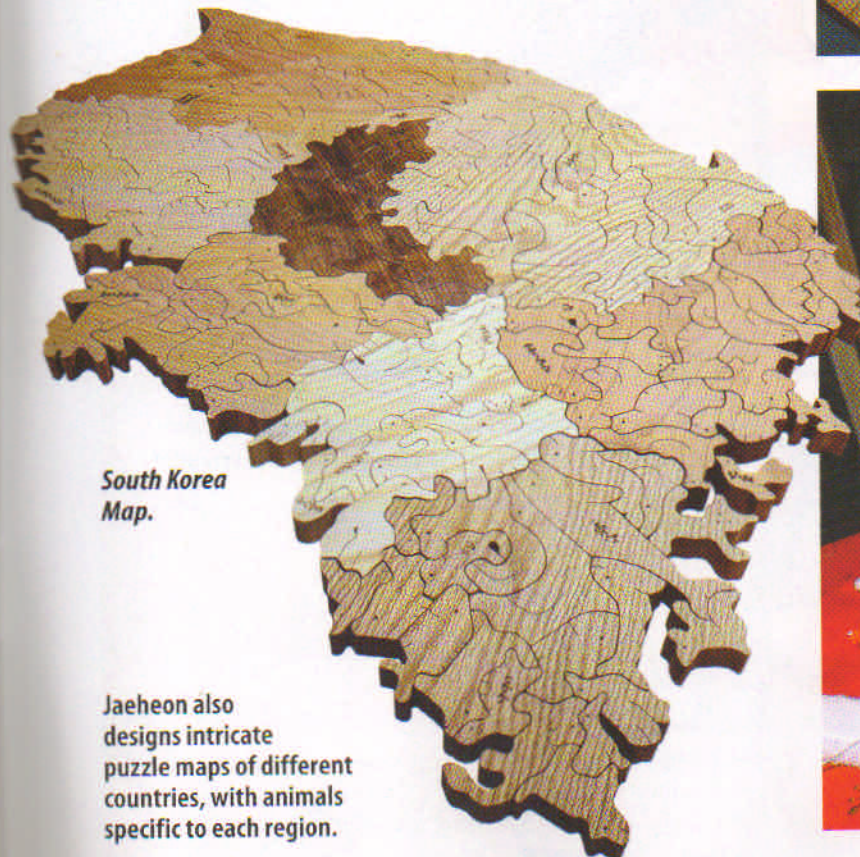
But regardless of subject, he always stays true to his original concept: *Namunolie*, the name of his small business, combines two Korean words meaning "tree" and "play," a perfect title for a designer specializing in wooden toys. Jaeheon's new shop houses a fleet of Hegners, Jets, and Excaliburs, ready to do just that—keep "playing" with natural materials whenever inspiration strikes.

Find more of Jaeheon's work on [Etsy @Namunolie](#), or try out one of his animal puzzle designs on page 64.

In the Korean zodiac, 2020 is the Year of the Rat.

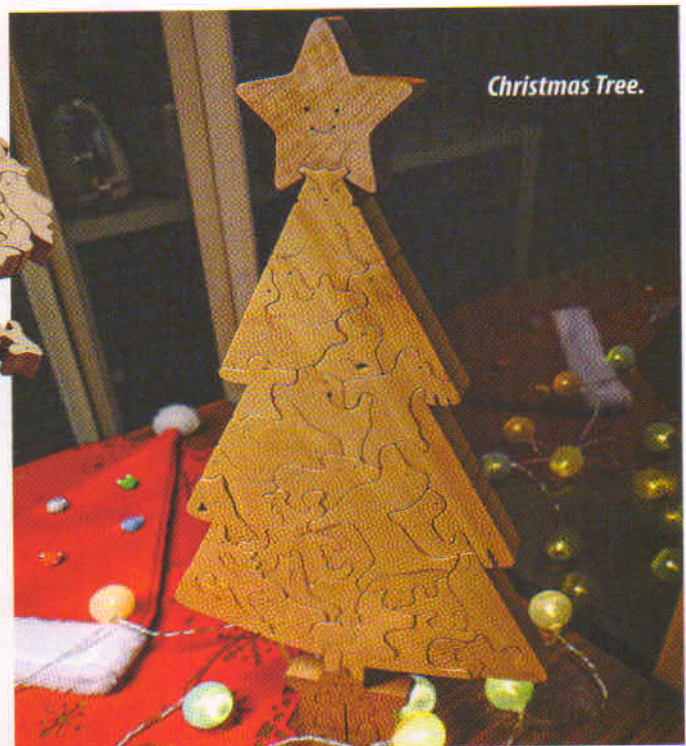


Remember.



South Korea Map.

Jaeheon also designs intricate puzzle maps of different countries, with animals specific to each region.



Christmas Tree.

Animal Kingdom Mega Puzzle

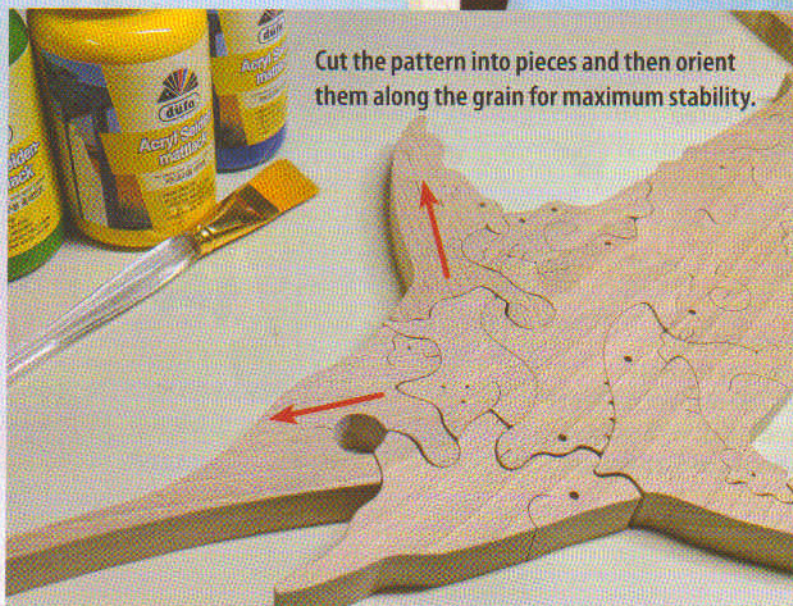
More than 20 classic creatures make up this interlocking design

By Jaeheon Yun

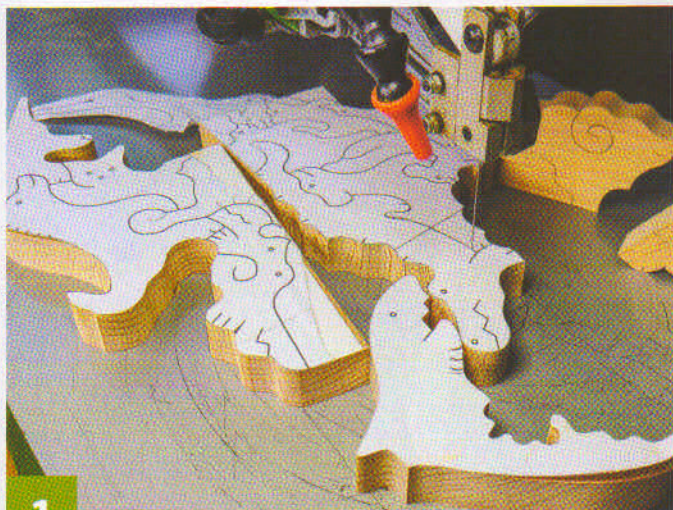
Estimated to reach a speed of around 60mph (97km/hr), swordfish are some of the fastest swimmers on Earth. A prominent spear and a series of striking fins make them an interesting scrolling subject. I shaped each piece in this design after a different animal—see if you can spot the alligator and goat! While fun to assemble as a puzzle, the pieces also function well as simple toys on their own, as each is freestanding. Teach children to identify different kinds of creatures or encourage them to set up scenes and stories with the pieces. This project is a recipe for infinite fun!

Getting Started

Cover the blank with blue painter's tape. Attach the pattern to the tape with spray adhesive. You can do this in one of two ways. The simpler is to attach the pattern as a single piece, making sure the woodgrain runs from the fish's nose to its tail, and cut the pieces consecutively. However, to maximize strength, certain pieces, such as the upper jawbone and upper fin, can be cut from separate pieces of wood. I laid the upper jawbone piece so the grain ran from the tip of the "nose" to the top of the skull, and the upper fin piece so that the grain ran from the key to the end closet to the fin tip. Drill the holes for the eyes, noses, and mouths; I used three differently sized bits for some visual variation. *Note: If desired, you could paint on the eyes later instead of drilling them.*



Cut the pattern into pieces and then orient them along the grain for maximum stability.



1

Cut the puzzle. Since this is quite a large project, I recommend cutting it into three or four parts straightaway, so you can maneuver it more easily. I usually separate the head, torso, and tail sections before getting down to the details. Cut each piece, taking extra care with the kerfs that make up the animal details (such as the ram's horn, horse's mane, and monkey's face).



2

Remove the patterns. Sand the surfaces on a belt sander, and then hand-sand all over each piece, moving up progressively through the grits to 500. Make sure to soften the sharp edges slightly.



3

Apply a finish of your choice. For a natural look, I brush on Danish oil or mineral oil and wipe off the excess with paper towels. For a more colorful look, paint each piece with assorted acrylics, letting the pieces dry thoroughly before assembling. If you chose not to drill the eyes, add a dab of white paint in each eye area and let dry. Then use the end of a toothpick to add a black dot to the center.

Materials & Tools

Materials

- Wood, such as soft maple or beech, $\frac{3}{4}$ " (1.9cm) thick: approx. 11" x 29 $\frac{1}{2}$ " (27.9cm x 74.9cm)
- Tape: blue painter's
- Spray adhesive
- Sandpaper: assorted grits to 500
- Acrylic paints: black, blue, green, red, white, yellow (optional)
- Toothpicks (optional)
- Finish, such as satin spray lacquer, natural Danish oil, or mineral oil
- Paper towels

Tools

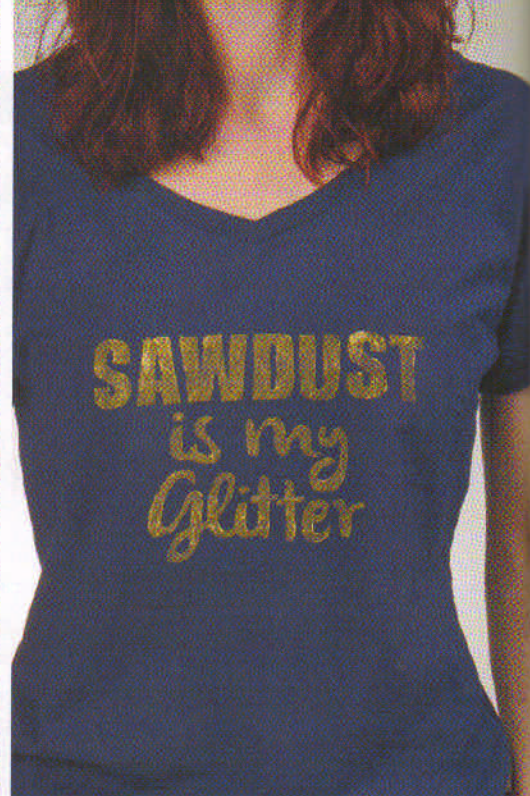
- Scroll saw with blades: #5 or #7 reverse-tooth
- Drill with bits: $\frac{1}{32}$ " (1mm), $\frac{1}{16}$ " (2mm), $\frac{1}{8}$ " (3mm)-dia.
- Sander: belt
- Paintbrushes: assorted

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

Pattern for the **ANIMAL KINGDOM MEGA PUZZLE** is in the pullout section.



Jaeheon Yun is a puzzle designer based in South Korea. He graduated from Seowon University with a degree in Industrial Design in 2004; then, just before his first child was born in 2011, he bought a scroll saw and began making toys. Find more of his work on Etsy at [Namunolie](#).



Block-Printed Tees FROM THE SCROLL SAW

Make wearable, custom gifts for as little as \$6 a pop

By the Staff of Scroll Saw Woodworking & Crafts

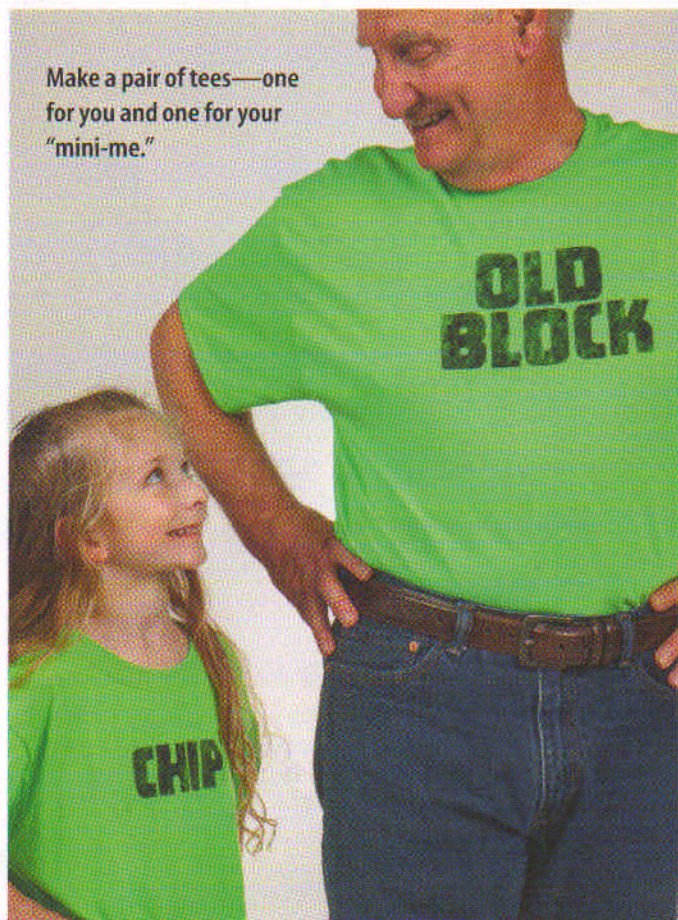
When you think of popular scroll sawn items, decorative word art (such as Anna Hagen and Nikki Hollerich's designs on page 31) might come to mind. But what about word art you can wear? We designed a handful of scroll saw patterns for just this purpose—they're fairly simple to cut, and the stamping process can be repeated as many times as you like, making these tees a budget gifter's dream.

Choosing Materials

Smooth, breathable, natural fabrics such as cotton, linen, or cotton/linen blends work well for block printing; avoid anything too coarse, as it will pick up ink irregularly. We steamed our T-shirts to remove any wrinkles and hung them so they were completely dry before printing. (Wet spots can cause the ink to bleed.) You could also iron the material, if preferred.

Choose an ink. Make sure to search specifically for fabric-friendly block-printing ink, as some varieties are rated for paper only. We used oil-based ink, but you

Make a pair of tees—one for you and one for your "mini-me."



Just
FLOCK IT!

with Spray-on Fibers

Line Box and Gourd Interiors in just minutes.

Create soft, fuzzy effects on your wood crafts such as:

Santas	Clouds
Dolls	Angels
Toy Furniture	Flower Petals
Jewelry	Model Car Seats
Decoys	Tree Ornaments
Tool Handles	Fretwork Backgrounds

....the possibilities are endless!

Available in over 20 colors.

Call for brochure & color chart **815-986-1097**

Flock It!

1515 Elmwood Rd, Rockford, IL 61103

www.flockit.com

PS WOOD MACHINES



Buy any Intarsia Pattern*
from our catalog/website

(*priced \$9.95 or higher)

and get a **FREE**
4-blade sample pack of our

#7 Super Sharps
scroll saw blades.

offer expires 3/31/2021

type "free7" in comment section online

**FREE
BLADES!**



www.pswood.com

1-800-939-4414

3032 Industrial Blvd., Bethel Park, PA 15102

Spirals by Steve

Make Scroll Saw Shells from PDF Patterns.

Several different patterns

available with more

being added.



www.spiralsbysteve.com

(479) 223-3767

Use Code SSWC for 10% Off

Build Your Own Outdoor Fun!



Build these popular pieces
from our plans! We carry the hardware,
blades, and general finishes to make your
projects the best they can be.

CherryTree
Wildwood

Woodworking Plans, Kits & Supplies

www.CherryTreeToys.com



A FEW OF OUR
MANY BRANDS!

Amana Tool®

**Wildwood
DESIGNS INC.**

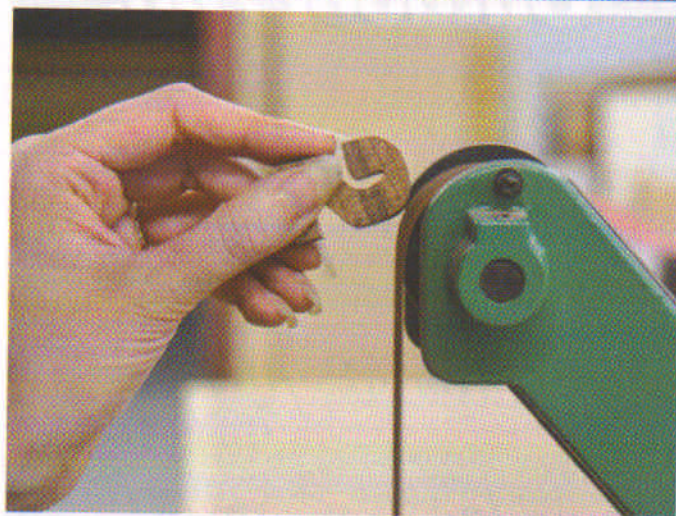
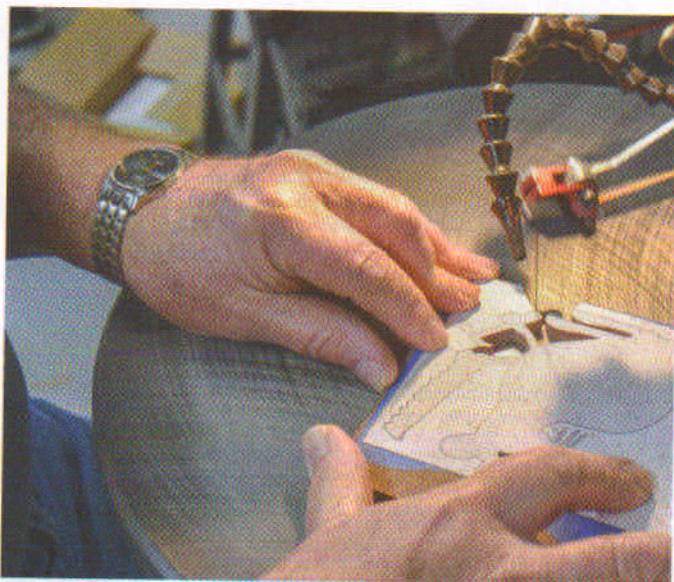
OLSON®

Over 18,000 woodworking and scrolling items to choose from

CALL TODAY! 1-800-848-4363 Catalogs Available

could use water-based, if desired. The former is more tacky—ideal for transferring small details, such as the mouse whiskers in our Shop Rat design—but takes significantly longer to dry. Be sure to pick up a small rubber brayer to roll out the ink, as well.

For the lettering, choose a relatively hard wood that cuts cleanly and is not overly porous; we resawed pieces of scrap walnut and mahogany to $\frac{1}{8}$ " (3mm) thick, but use what you have on hand. MDF, maple, or cherry work well, but we would not recommend oak, pine, or similar. For the backer, almost any scrap wood will work, as this will not come in contact with the ink or the fabric; we used $\frac{1}{2}$ " (1.3cm)-thick ply.



Making the Block

Photocopy the pattern, making sure it is a mirror image of the final product. Reserve a second copy for reference. Make sure the surface of the wood is smooth before applying the pattern, as an uneven surface will create difficulties as you ink the stamp later. Apply the pattern with repositionable spray adhesive, drill

any blade-entry holes, and cut the designs. *Note: For some of the more detailed pieces, we found it was useful to cut just outside the pattern lines and then sand the pieces to size on a belt sander.*



Remove the patterns and hand-sand any fuzzies away. Attach the elements to the piece of scrap plywood with wood glue, using the second pattern copy for reference. *Note: The letters should be backward, so the resulting print reads left-to-right.* Let dry completely.



Applying Ink

Spread a small amount of ink on a smooth, nonporous surface, such as a spare piece of plastic or the back of an aluminum sign. Roll out the ink to distribute it evenly over the rubber part of the brayer. Then move the brayer over to your woodblock stamp (shown

above). Roll the ink in an up-and-down motion over just the surface of the stamp, being sure not to get any ink on the flat surface of the plywood. Then roll the ink in a side-to-side motion over the same surface, applying ink to every part of the design.

Test the design on a piece of paper; we used thick pieces of watercolor paper, as well as regular computer paper. To do this, place the paper squarely on the wood block, anchoring it with one hand and burnishing it (or rubbing in a circular motion) with the other. Then peel the paper off, being careful not to smudge with the wet ink. This preliminary step allows the wood to absorb the ink, resulting in a smoother load for subsequent inking. It also alerts you to any irregularities of ink distribution caused by uneven pressure during burnishing, letting you improve your technique before printing the actual T-shirt.



Reapply the ink to the stamp. Fold the arms of the T-shirt back, position it in front of the stamp, and press it down carefully. Lay out the arms of the shirt on either side and burnish the surface with your hand

until every element of the design has been covered. Carefully remove the design as before and lay the shirt out to dry. If you used oil-based ink, let it cure for at least a week before washing; water-based inks dry within a few days. Clean the brayer and inking surface with soap and water; wipe down the stamp with a dry paper towel before the ink dries.

Item	Price
T-shirts: 100% cotton	Approx. \$5 each
Speedball fabric block printing ink: oil-based	\$8.99 per 2.5oz. tube
Rubber brayer: 4" (10.2cm) across	\$6.99
Wood, such as MDF: design, 1/8" (3mm) to 1/4" (6mm) thick	Less than \$3.99/square foot
Scrap wood, such as Baltic birch: backer, 1/4" (6mm) to 1" (2.5cm) thick	Negligible

Costing it Out

Let's say you make 20 shirts in a day. Keeping in mind that the brayer and stamp can be reused, and that a small amount of ink goes a long way (we made ten T-shirts and used less than a third of the tube), you'll spend approximately \$6 per finished shirt.



Other Applications

Once you're comfortable with the basics, try applying your design to other items, as well—tote bags, notecards, pillow shams, you name it. Flip through back issues of this magazine, too; many of our previously published fretwork designs work great as prints. And make sure to write in with photos once you've tried this project for yourself.

Patterns for the **BLOCK-PRINTED TEES** are in the pullout section.

Advanced Machinery—Inside Back Cover
800-SCROLLER
advmachinery.com

Bear Woods Supply Company—Back Cover
800-565-5066
bearwood.com

Bushton Manufacturing—page 7
620-562-3557
hawkwoodworkingtools.com

Cherry Tree Toys—page 67
800-848-4363
cherrytreetoys.com

D&D Woodcrafts—page 7
610-381-2286
dndhardwoodsonline.com

Excalibur—page 5
253-754-6072
excaliburpowertool.com

Flock It—page 67
800-336-6537
donjer.com

Klingspor Woodworking Shop—page 7
800-228-0000
woodworkingshop.com

Meisel Hardware Specialties—page 70
800-441-9870
meiselwoodhobby.com

Mike's Workshop—page 13
503-760-1614
mikesworkshop.com

Ocooch Hardwoods—page 70
888-322-2432
occoochhardwoods.com

PS Wood Machines—page 67
800-939-4414
pswood.com

Seyco, Inc.—page 1
800-462-3353
seyco.com

Spirals by Steve—page 67
479-223-3767
spiralsbysteve.com

Wooden Teddy Bear—Inside Front Cover
888-762-9149
woodentedybear.com

Wudpal—page 13
wudpal.com

MEISEL
HARDWARE SPECIALTIES

We carry THOUSANDS of woodworking plans! Birdhouses & feeders, indoor & outdoor furniture, clocks, children's toys, patriotic & holiday projects - and MORE!

YEARBOOK
400+ Projects
MEISEL HARDWARE SPECIALTIES
The Best Project Ideas in Woodworking Plans

Plans for over 1,000 Woodworking Projects!
Offer #1788
1-800-441-9870
www.meiselwoodhobby.com

To receive our 84-page **FREE** full-color catalog call: **1-800-441-9870** Or visit our website: **www.meiselwoodhobby.com**



Pattern for the **GRIZZLY BEAR INTARSIA** is in pullout section

Fox Hunt

Raymond Peterek of Rosharon, Texas, and Linda McKnight of Huxley, Iowa, were randomly drawn from the participants who located the fox in our last issue (Winter 2020, Issue #81). The fox was hidden in the photo of Brad and Hazel Eklund's Grizzly Bear Intarsia on page 22.

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 February 17, 2021, 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.

Scroll Saw Ready Hardwoods

Ocooch
Hardwoods

Your choice for

- Carving stock
- Turning blanks
- Intarsia lumber
- Plywood
- Variety of sizes —up to 12" wide
- Over twenty-five species
- Fast service
- Satisfaction guaranteed

FREE CATALOG
OcoochHardwoods.com
(888) 322-2432

SSWC: Why did you begin woodworking?

FE: I grew up listening to my father, a brilliant geography teacher, explain the intricacies of the natural world. Materials like stone and wood fascinated me. In the small garden behind our home, we had lemon, orange, and mulberry trees. I was curious about their care and maintenance. Every time my father pruned and trimmed the trees, I collected the branches to create small gifts.

When I was in high school, I discovered Moaragh, an ancient Middle Eastern technique of combining small pieces of wood with different textures and colors to create artwork. My woodworking journey really took off from there.



SSWC: What intrigued you about this ancient technique?

FE: In Moaragh, there are many artistic freedoms. Not only is it used for decorating furniture; it can also create stand-alone pieces of fine art. Since you work with very small, thin pieces of wood, you can “rescue” scraps from carpenters’ wood shops. For someone like me, who would love to save every piece of wood from going to waste, this carries emotional significance.

My artworks used to be quite large and took months to complete. As I became more confident, I experimented with different approaches. I began to incorporate contemporary designs, experiment with finer details, and create more personal pieces.

SSWC: What are your favorite woods to work with?

FE: The wood from the yew tree has incredible texture; I often use it as the main subject. I also love the smell of the wood from citrus trees, such as orange and lemon. Their scent can fill an entire room.

SSWC: You have an ability to capture an incredible amount of detail in a small space. What is your design process?

FE: For almost all my works, I try to capture a feeling or illustrate a scene that tells a story. I want my work to feel alive and I think wood is the perfect material for such a purpose. You could say that there is a little bit of me in everything that I make.

As for my process, once I imagine a sketch or a design, I draw each individual part on a piece of white



tape. I put the tape on a piece of wood that has the same color of that part, and then I cut it with a fretsaw. I prefer the fretsaw for its precision and maneuverability. I usually use blades that are a fraction of a millimeter—something between 0.2mm and 0.8mm—depending on the particular design and the type of wood I’m using. I also use standard woodcarving knives to add more curve and dimension to each piece. After they’re cut, I sand the pieces and glue them together.

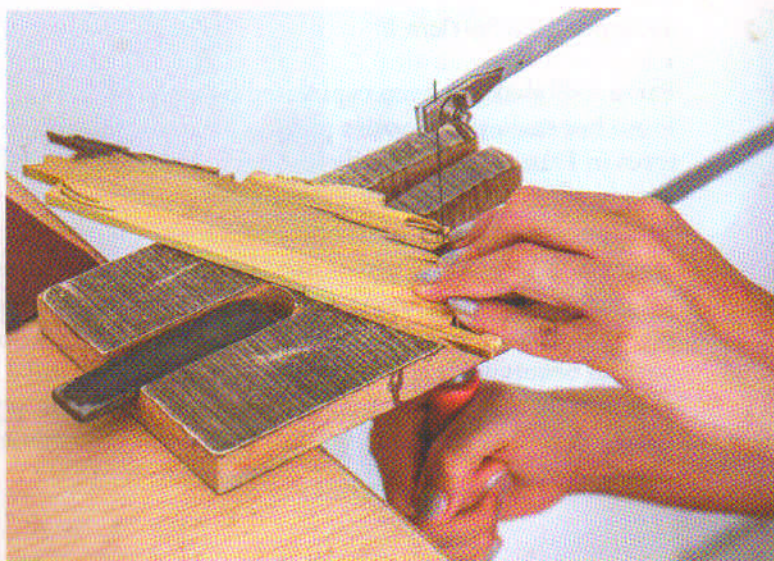
SSWC: Many of your artworks have subtle, natural color. Which finishes do you use?

FE: I never use color on my wooden pieces; the point is to make beautiful art with color and texture from the wood itself. In a few of my artworks, I’ve used color for dramatic effect under the cut pieces, or in some of my rare experiments, I’ve painted the background. But I never use color on the pieces that I cut. With the wood that I use, I don’t need to. I prefer to use natural oil and wax because I like how the mixture seems to bring the woods’ colors to life. My artworks are not usually meant to be in outdoor or harsh environments, so a simple oil and wax mixture is enough for them.

SSWC: Where do you draw inspiration from?

FE: The wood. The magical texture and color of each variety, the smell and even the sound of working on it—each element is a journey. Each type of wood has its own feel, which helps me imagine and explore new ideas.

See more of Farzane’s work on Instagram @arboree.gallery.



Making Fretsaw Magic

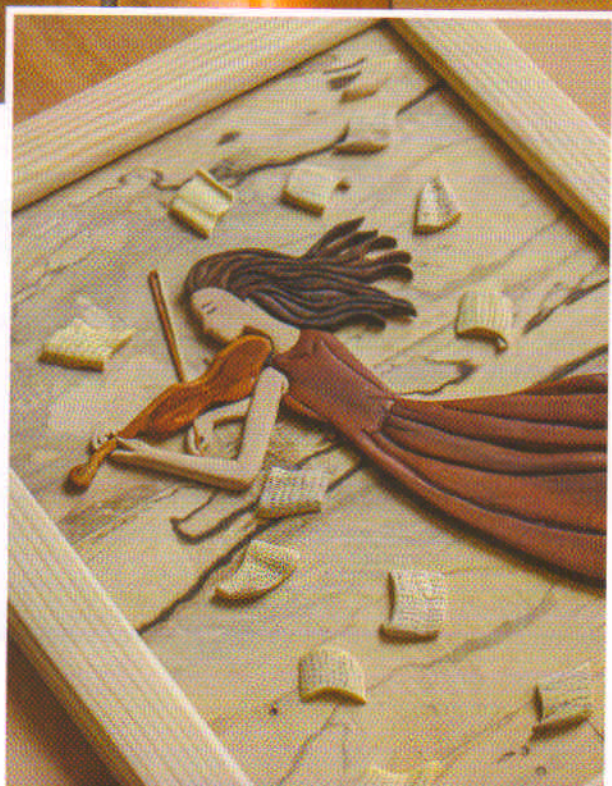


Farzane Etebar uses delicate slivers of wood to create stunning artworks

By Hannah Rachel Carroll

Farzane Etebar has been captivated by wood all her life. From her earliest memories playing beneath the family citrus trees in France to eventually finding her place within the woodworking community, Farzane has found wood to be a constant source of comfort and inspiration. Her respect for its form, color, and texture is apparent in each of her small yet impactful pieces. Using a modern blend of ancient inlay techniques from India and Iran, Farzane celebrates wood's natural beauty with silhouettes that satisfy and instill a sense of nostalgia that keep her fans coming back for more.

(Continued on page 71)



HEGNER

The Ultimate Upgrade

HEGNER Multimax
18-V with HLX7 Deluxe
Accessory Package.

Unsurpassed long-term reliability and value:

- Fast & Easy Blade Change
- Smooth, quiet operation
- Superior Control
- Smooth Edges...
No Sanding!

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.

FACT: A HEGNER is The Ultimate Upgrade for your scrolling shop.

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.

It's The Ultimate Upgrade.

Learn more: Call **1-800-SCROLLER** or visit www.advmachinery.com



MODIFIED GEOMETRY SKIPTOOTH, PINNED SPIRAL & MORE

Read thousands of reviews on
WWW.BEARWOOD.COM/SCROLLSAW



Steve Good

Author of
"The Scroll Saw Workshop"

NIQUA

ULTRA REVERSE FLAT END SPIRAL GOLD SPIRAL

Lowest Prices!

ROTARY TOOL
Ultra Light 35000 RPM Rotary
Tool with Easy Change.
Read more at:
bearwood.com/rotary



FINISHING

TITEBOND



PEGAS SCROLL SAW & PEGAS BLADE CLAMPS

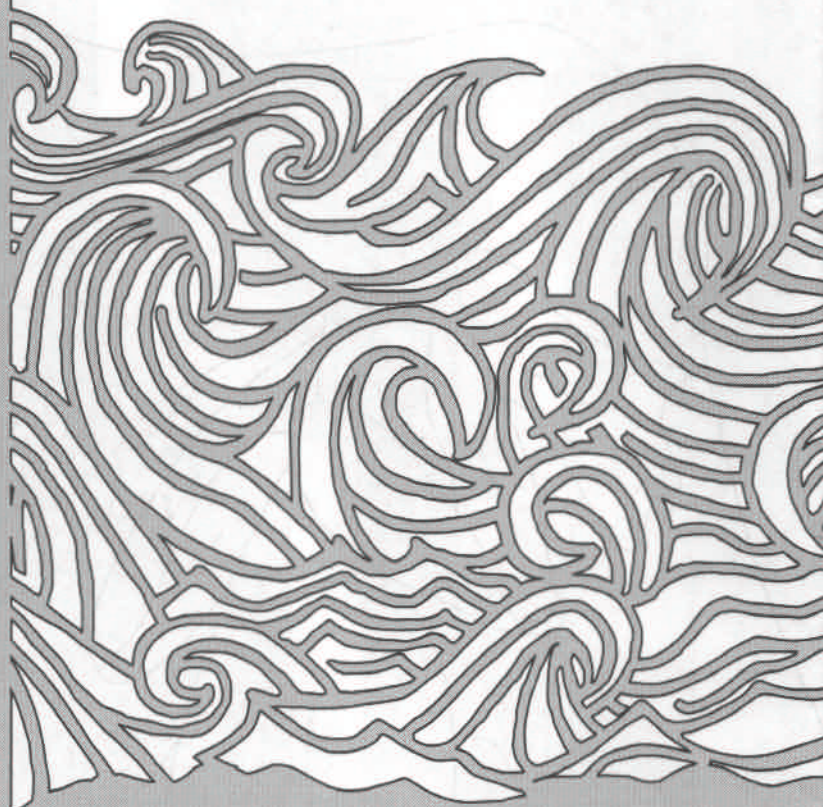
Foot Switches
Inspection Lamps
Blade Clamps for: Seyco, DeWalt, Jet, Excalibur, Delta & Excelsior



Read hundreds of positive reviews at
BEARWOOD.COM/SCROLLSAW



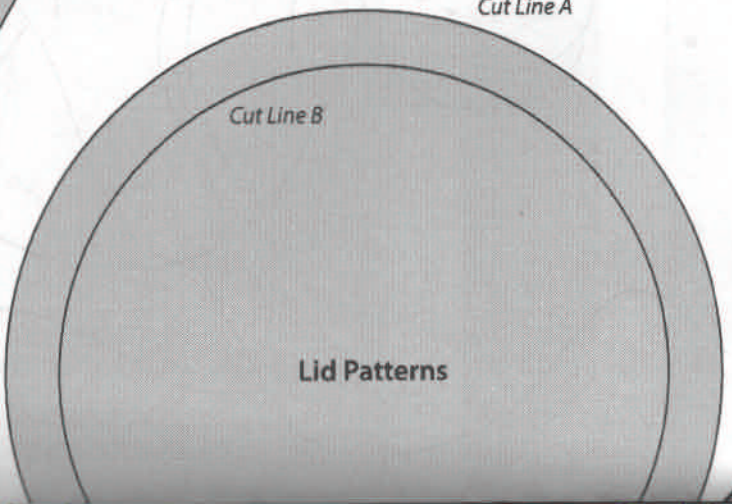
Back Layer Pattern



Cut Line A

Cut Line B

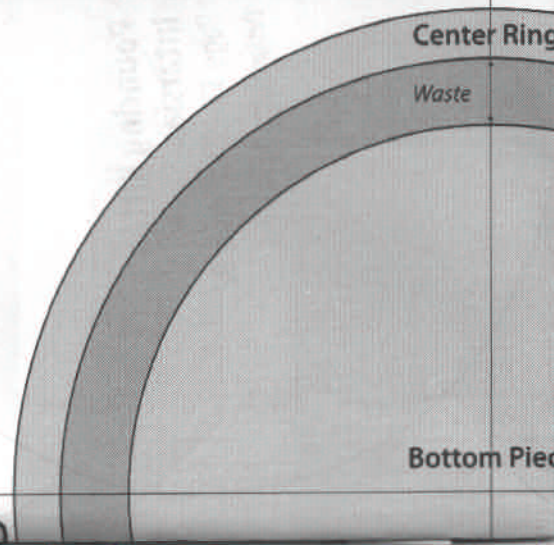
Lid Patterns



Center Ring

Waste

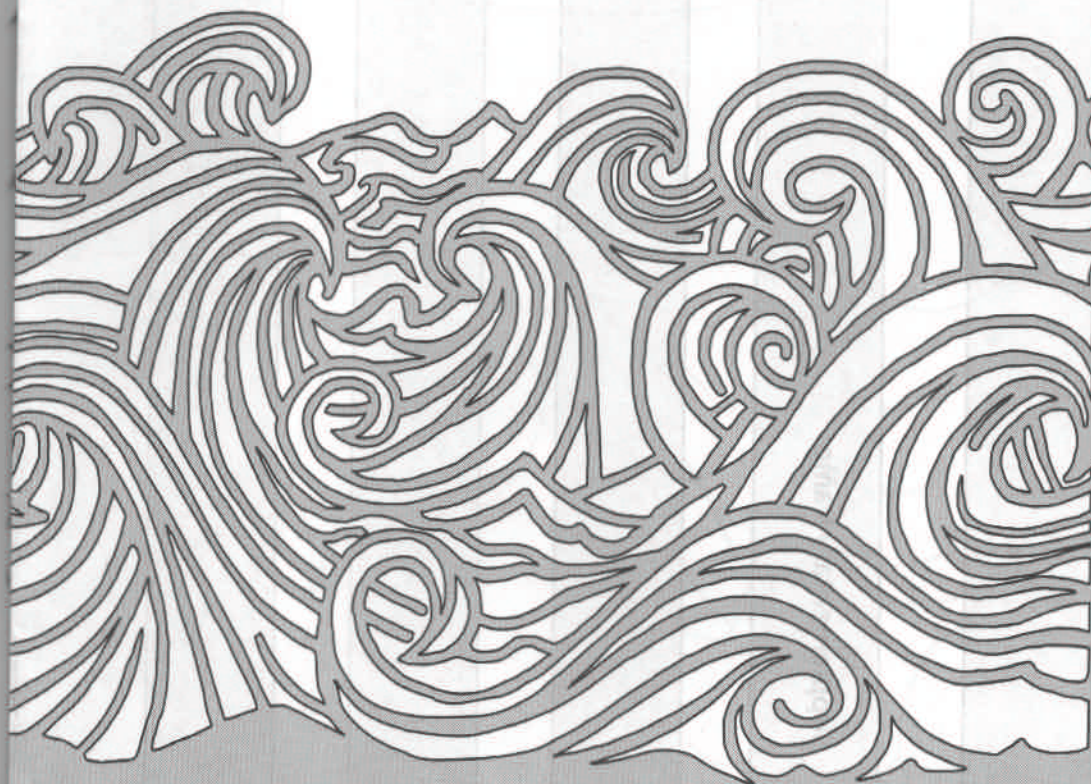
Bottom Piece



Any Port in a Storm

Page 42 - SSWC Issue 82

Designer: Fiona Kingdon



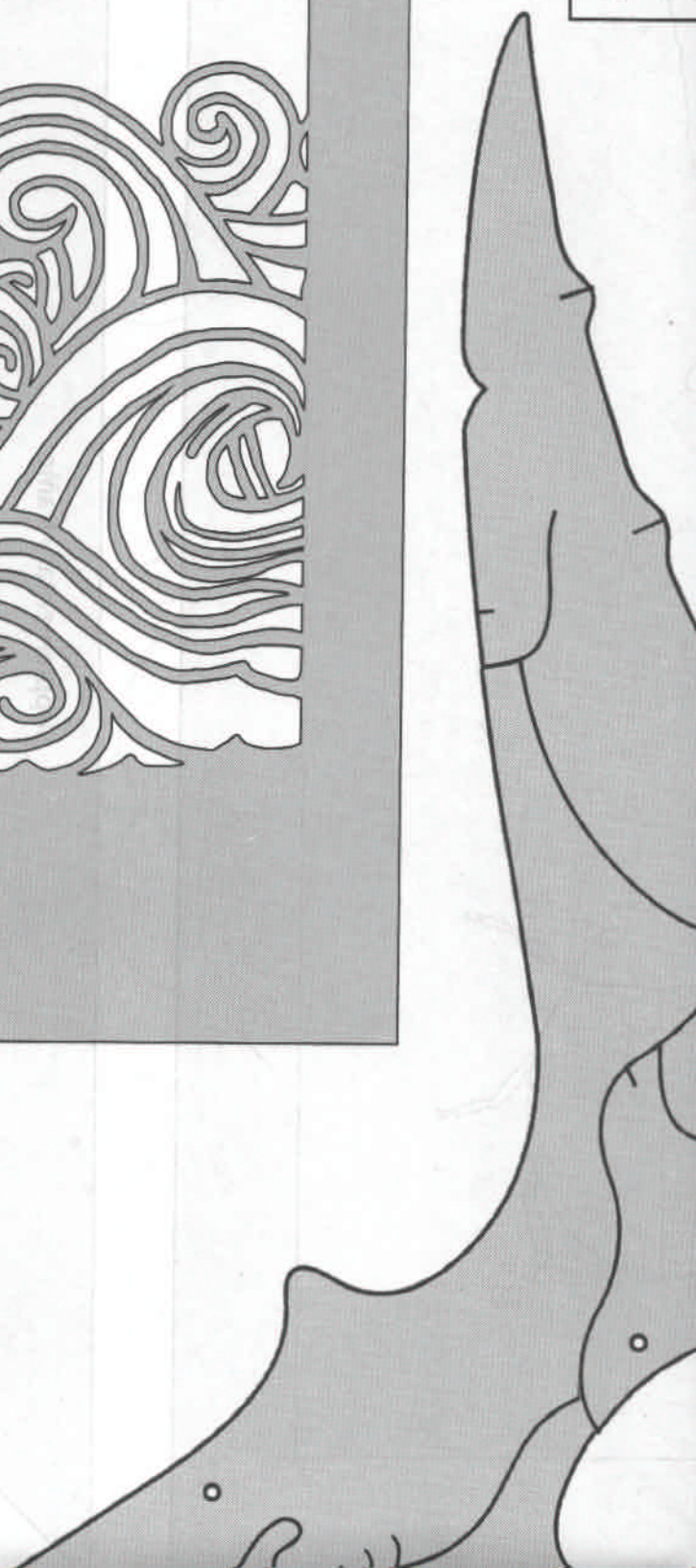
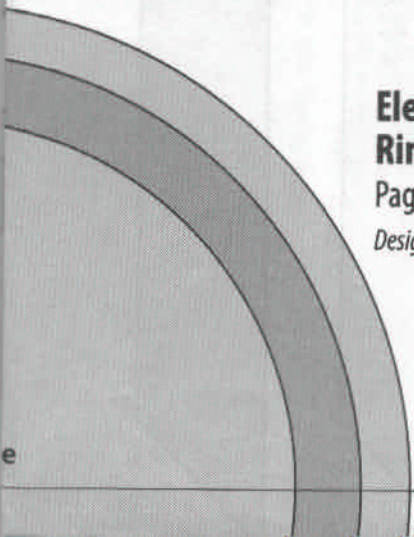
Notice ab

Some photo
distort patte
them slightl
Use the 1" b
when copyin
photocopie
to check for
any distorti

Elegant Ringed Caddy

Page 55 - SSWC Issue 82

Designer: Carole Rothman



Copying patterns
 and home printers can
 you print them, making
 or stretching the image.
 below as a guide
 terns and hold the
 tern up to the original



one inch

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

All patterns on this pullout section: © 2021 Scroll Saw Woodworking & Crafts

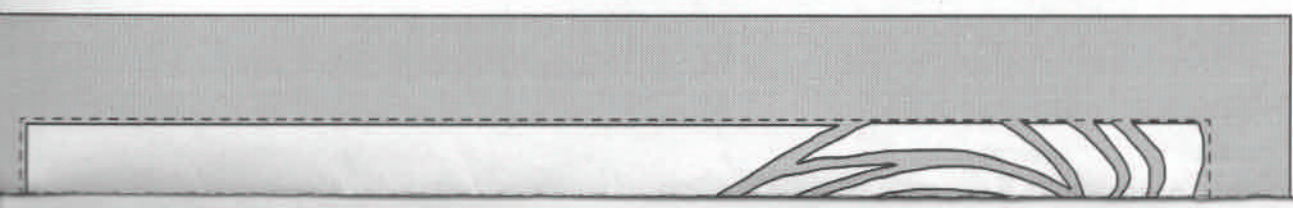
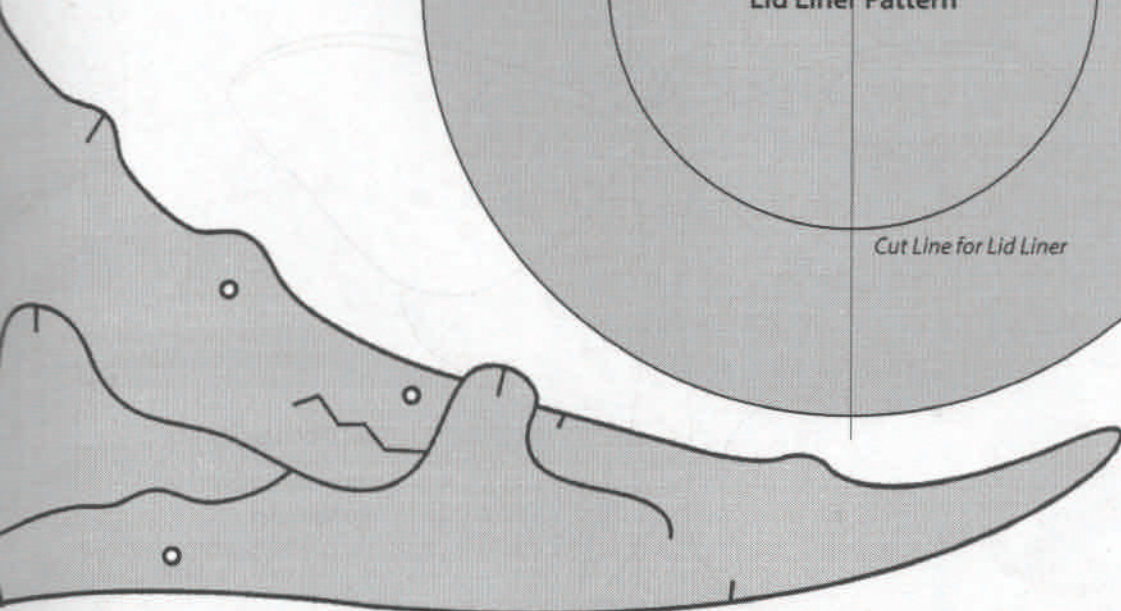
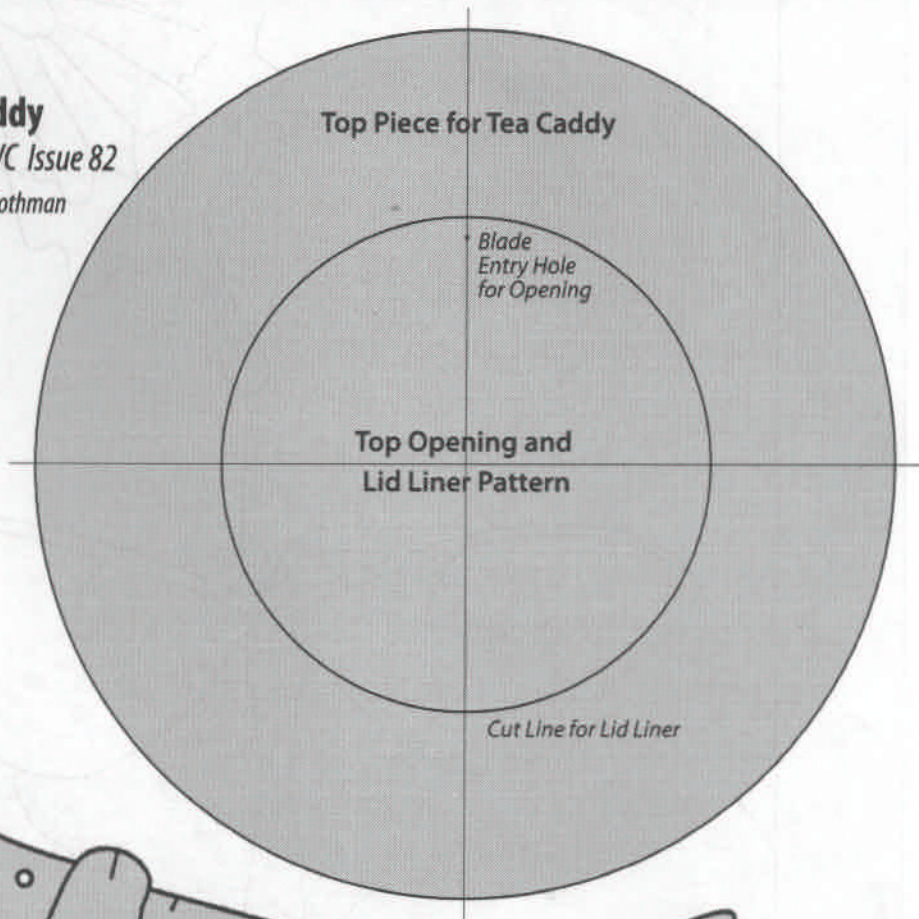
Ramp Walker Toys.....	28	Compound-Cut Cacti.....	50
Squeaky-Clean Word Art.....	31	Elegant Ringed Caddy.....	55
Pouncing Kitten Intarsia.....	33	Compound-Cut Water Bird.....	61
Insect Shadow Box.....	38	Animal Kingdom Megapuzzle.....	64
Any Port in a Storm.....	42	Block-Printed Tees.....	66
Easy Interlocking Unicorns.....	45		

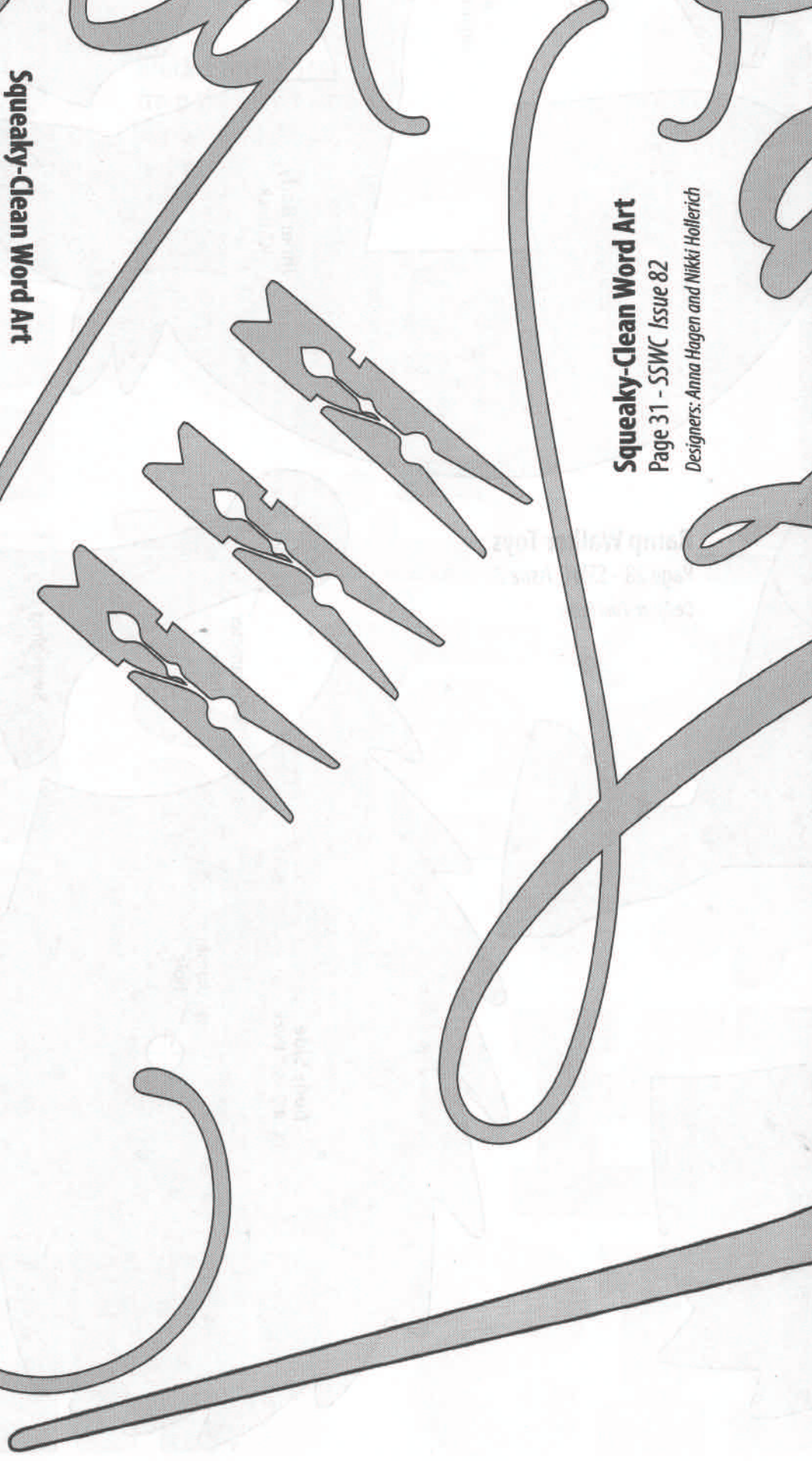
Note to professional copying services. You may make up to ten copies of these patterns for the personal use of the buyer of this magazine.

**Elegant
 Ringed Caddy**

Page 55 - SSWC Issue 82

Designer: Carole Rothman





Squeaky-Clean Word Art
Page 31 - SSWC Issue 82
Designers: Anna Hagen and Nikki Hollerich

Squeaky-Clean Word Art
Page 31 - SSWC Issue 82
Designers: Anna Hagen and Nikki Hollerich



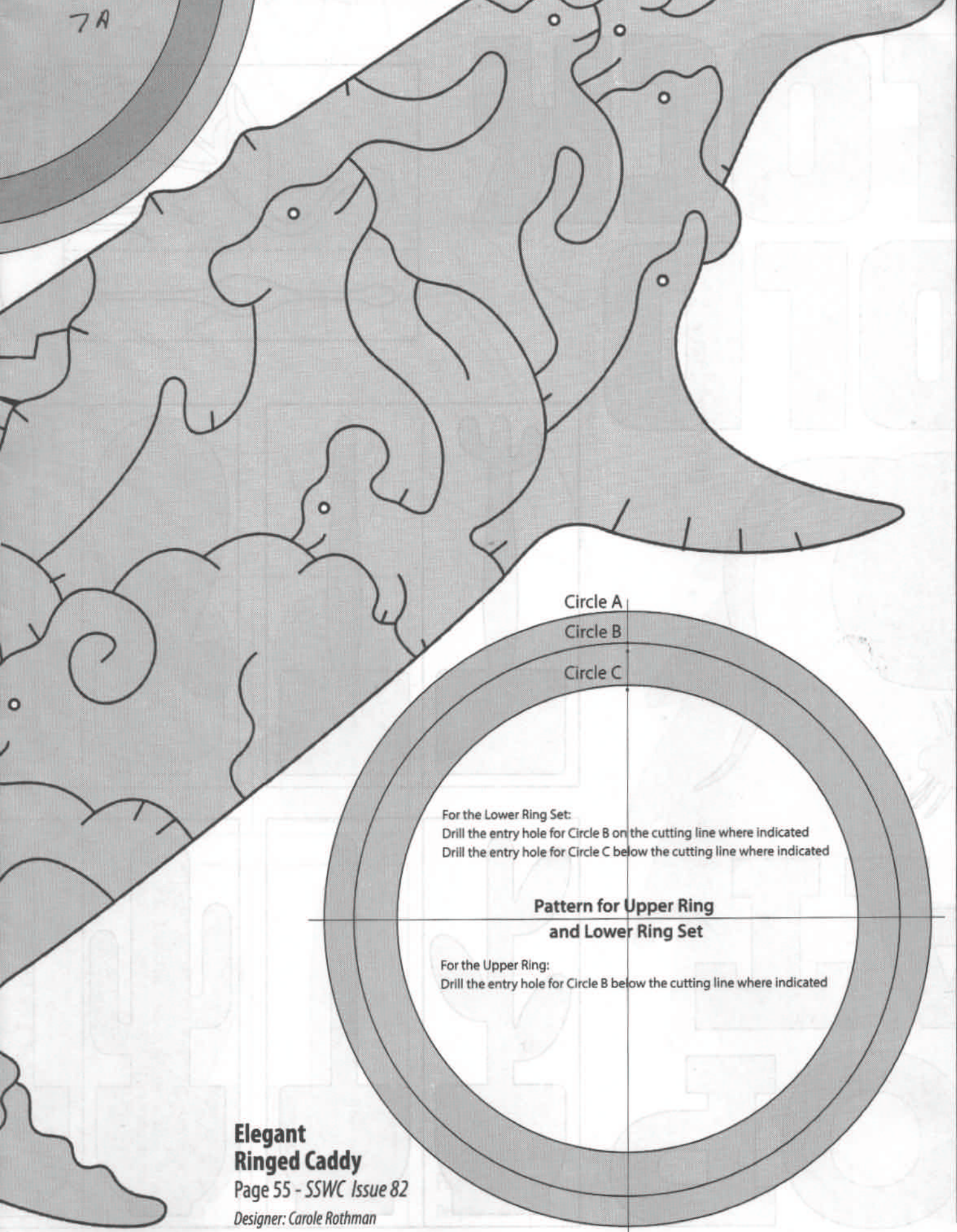
**Animal Kingdom
Jigsaw Puzzle**

64 - SSWC Issue 82

Artist: Jaeheon Yun

Copyright © 2012 SSWC
 Page 64 - SSWC Issue 82
 Artist: Jaeheon Yun

7A



Circle A
Circle B
Circle C

For the Lower Ring Set:
Drill the entry hole for Circle B on the cutting line where indicated
Drill the entry hole for Circle C below the cutting line where indicated

**Pattern for Upper Ring
and Lower Ring Set**

For the Upper Ring:
Drill the entry hole for Circle B below the cutting line where indicated

**Elegant
Ringed Caddy**
Page 55 - SSWC Issue 82
Designer: Carole Rothman

8A

Any Port in a Storm

Page 42 - SSWC Issue 82

Designer: Fiona Kingdon

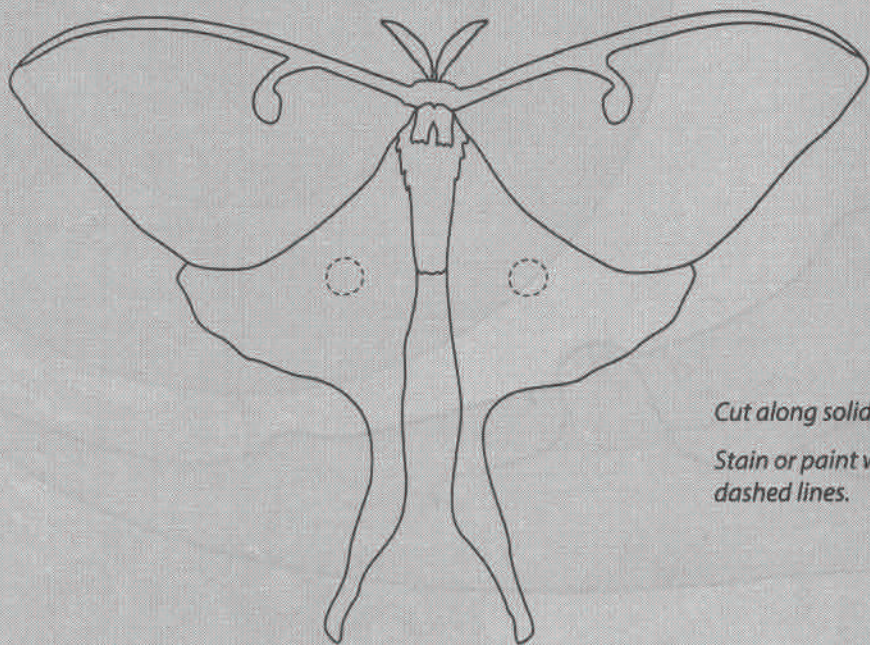
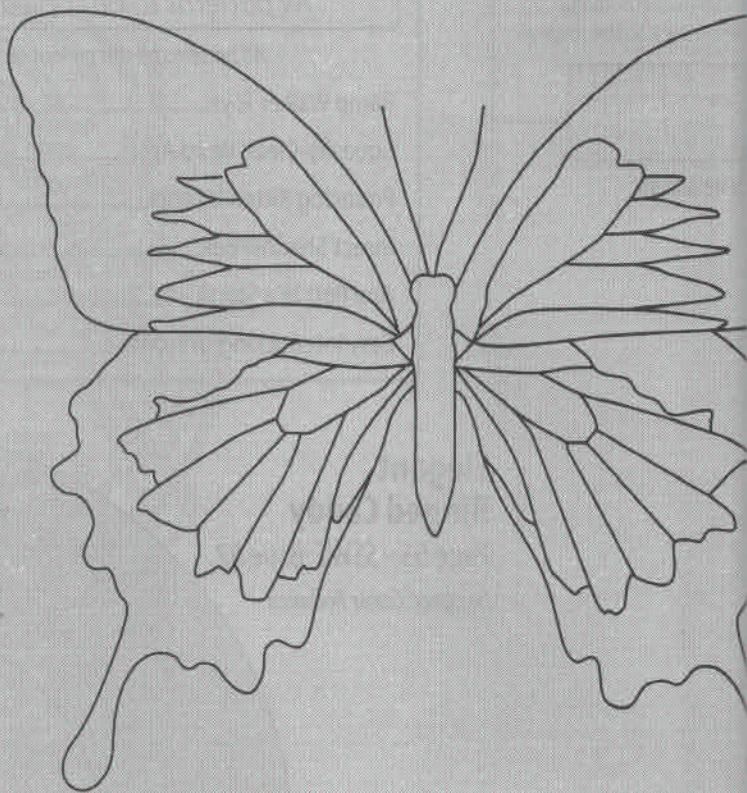
Front and Middle Layer Pattern



Insect Shadow Box Segmentation

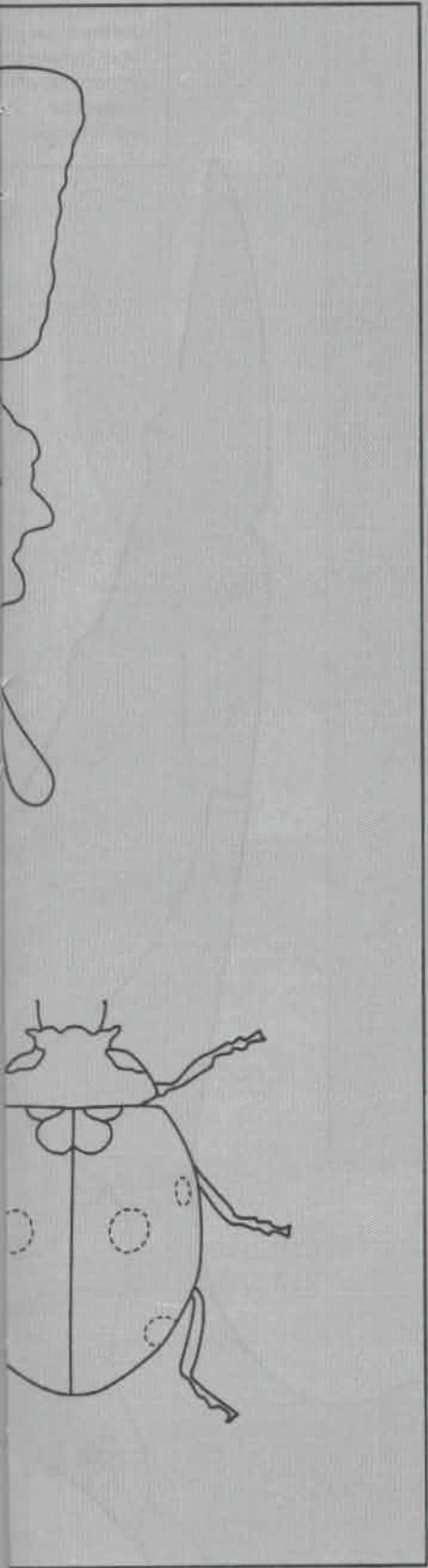
Page 38 - SSWC Issue 82

Designer: Emily Lewis

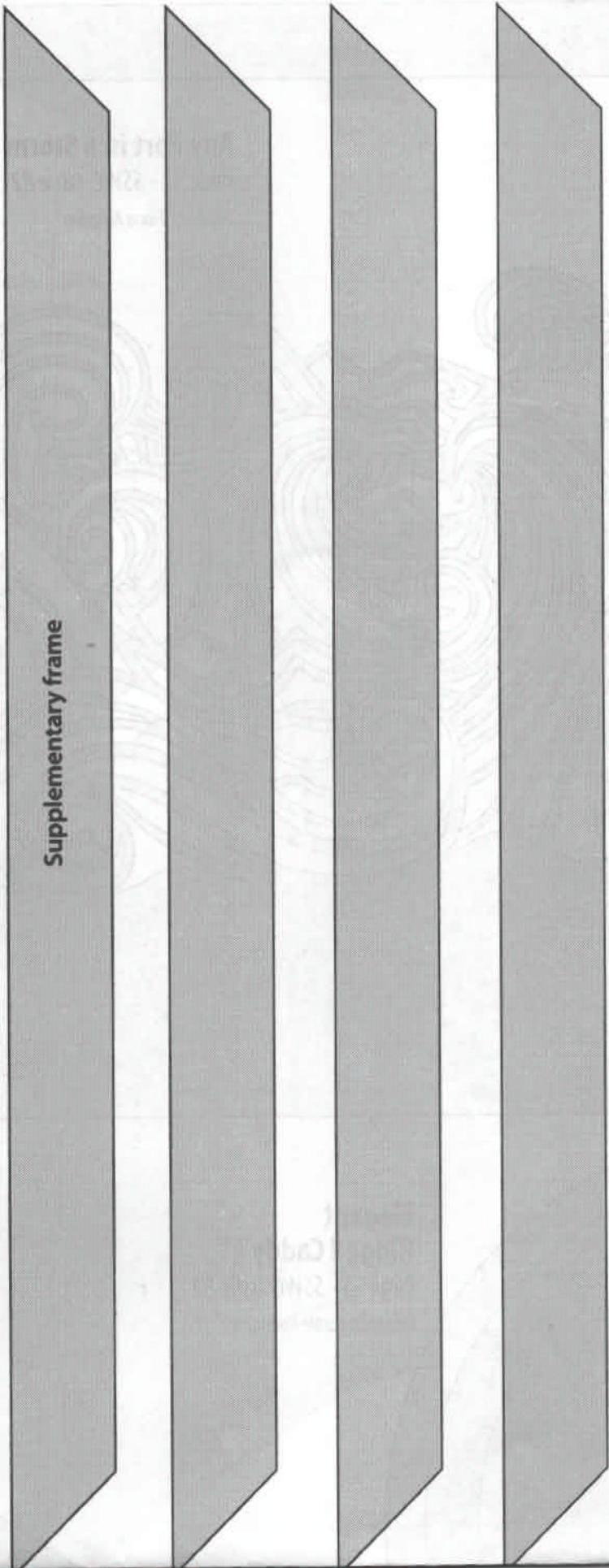


Cut along solid lines.
Stain or paint within
dashed lines.

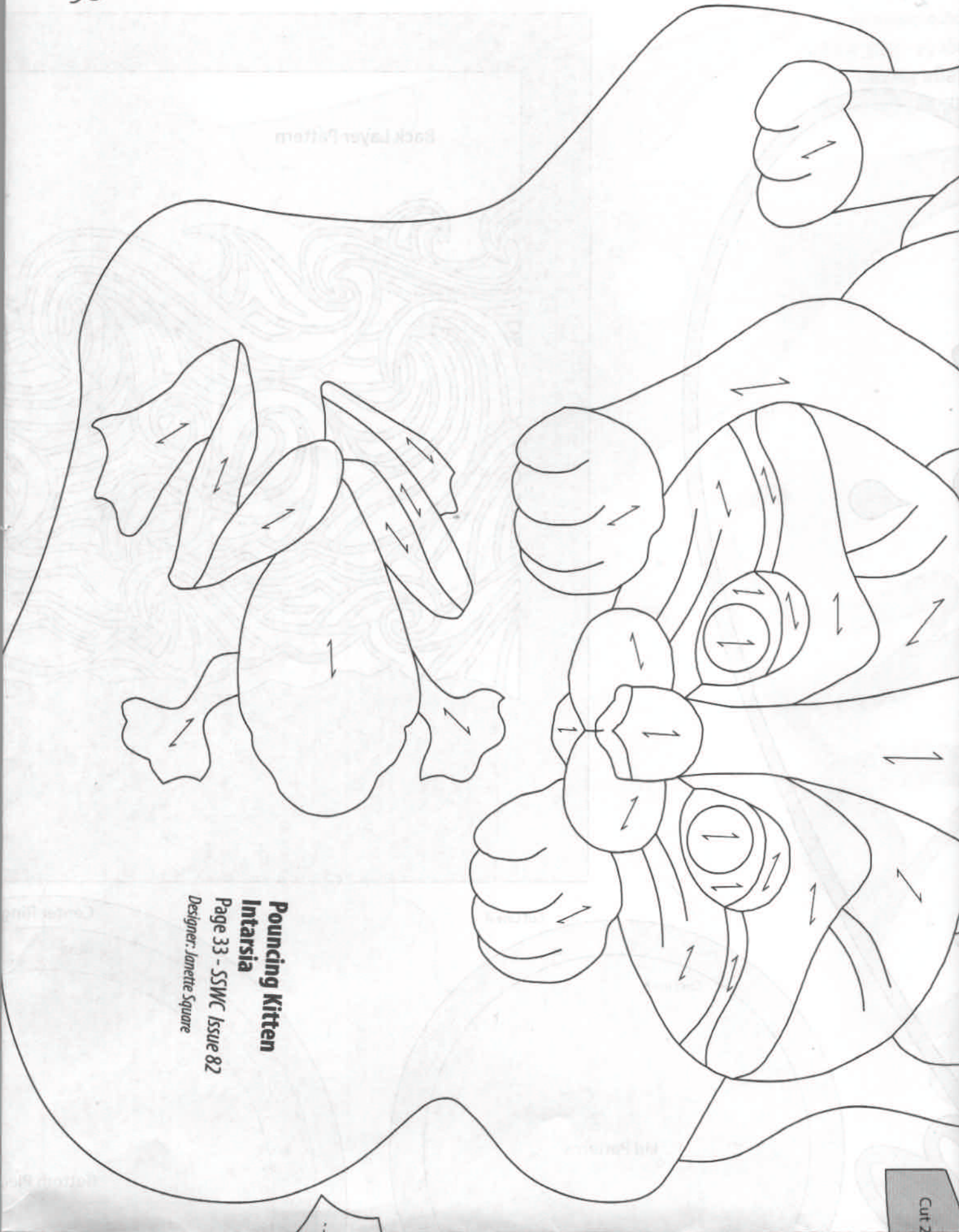




Supplementary frame



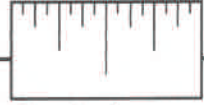
Back Layer Pattern



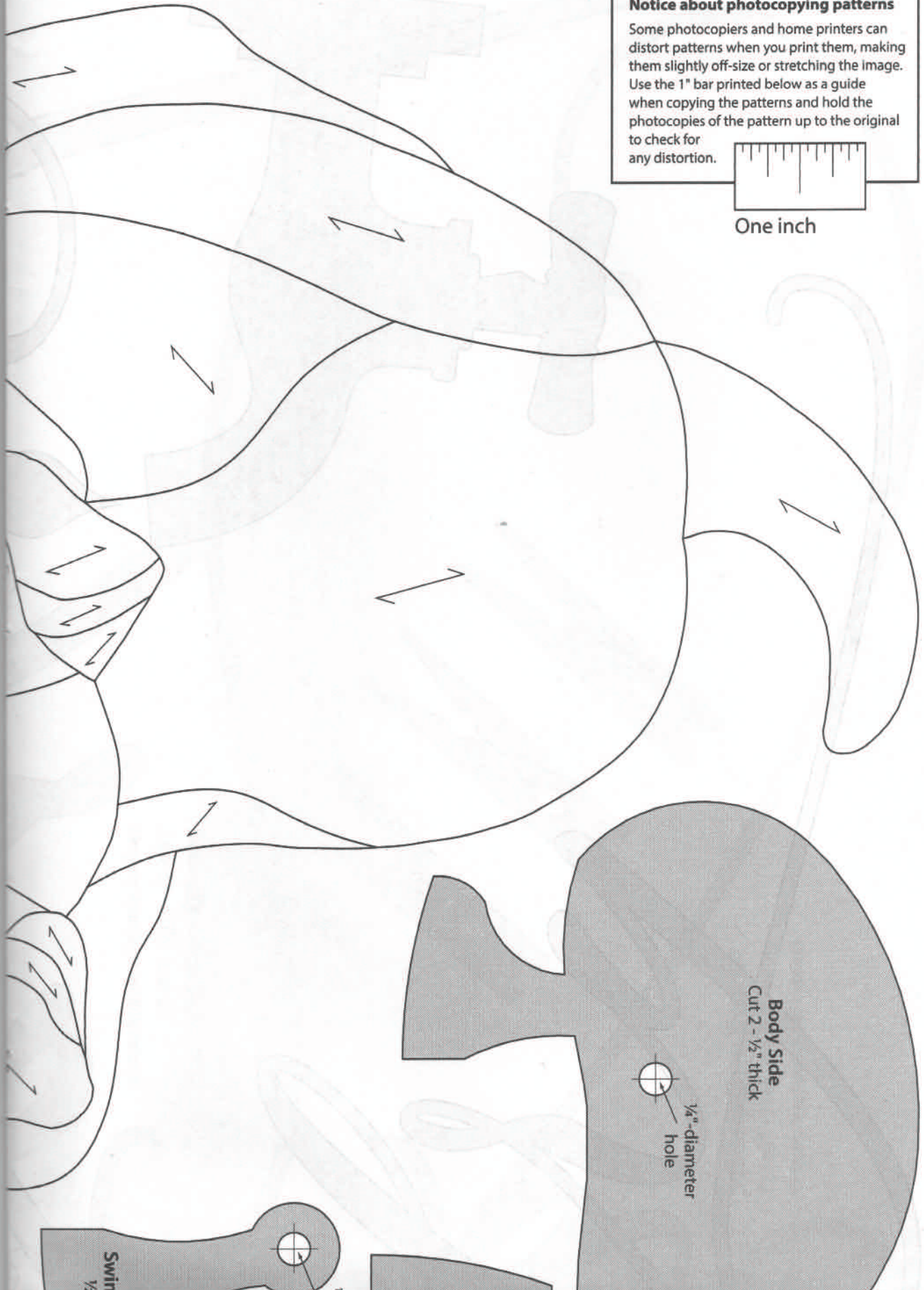
Pouncing Kitten
Intarsia
 Page 33 - SSWC Issue 82
 Designer: Janette Square

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



Body Side
Cut 2 - 1/2" thick

1/4"-diameter hole

Swim

1/2"

AMAZING

is a letter



B

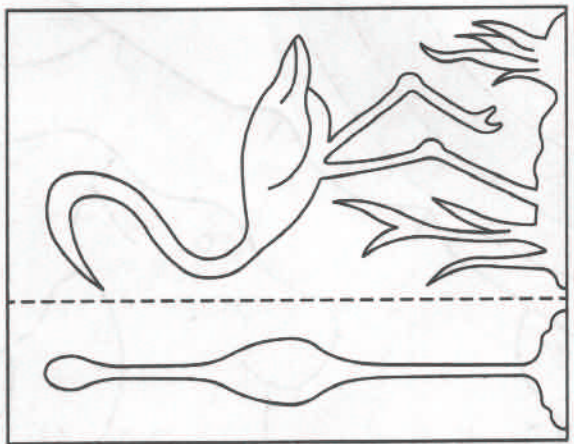
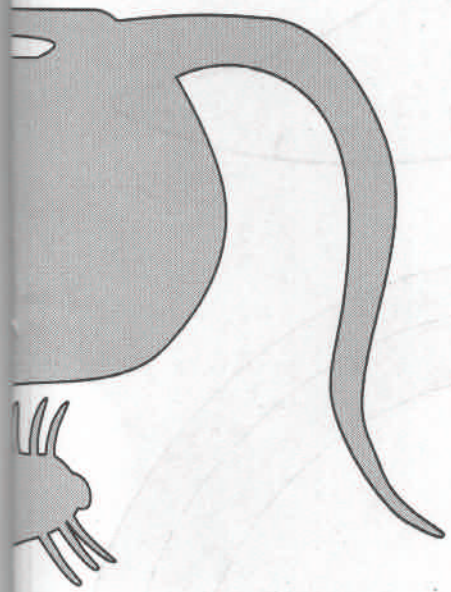
BY

SH

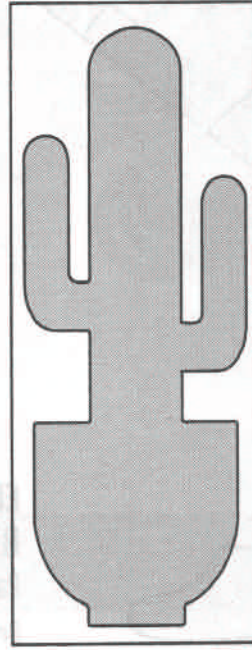
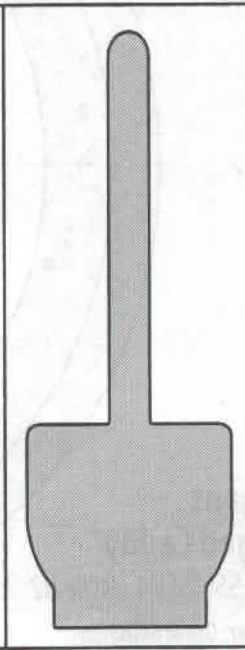
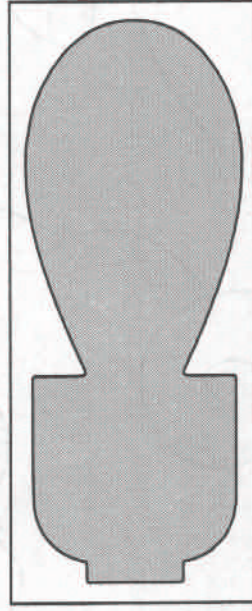
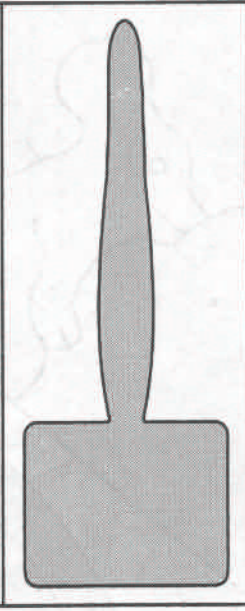
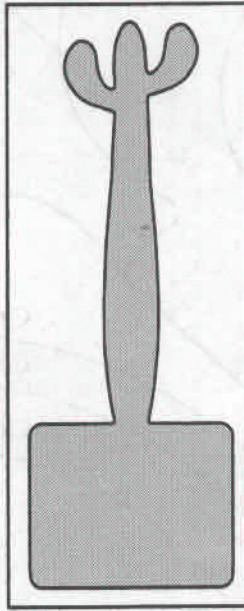
**Block-Printed Tees
from the Scroll Saw**
Page 66 - SSWC Issue 82
Designer: Jon Deck

ГОСКИ

ГОГО

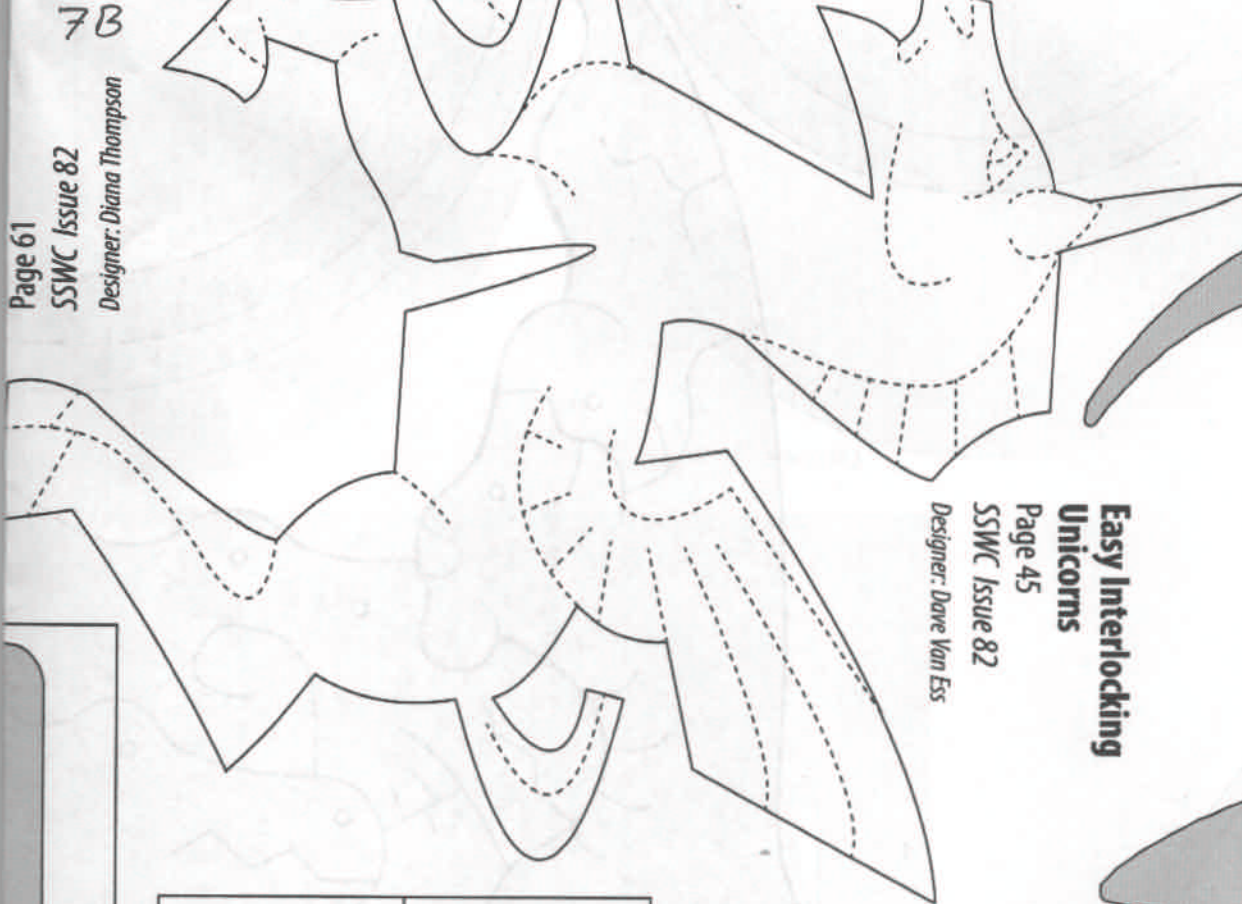


Compound-Cut
Water Bird



ВА

ОБ

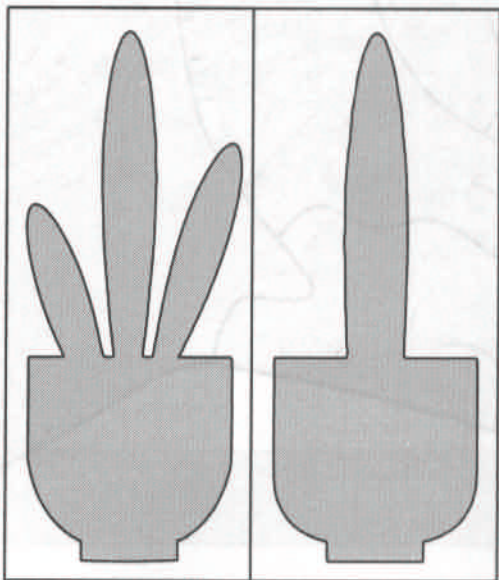
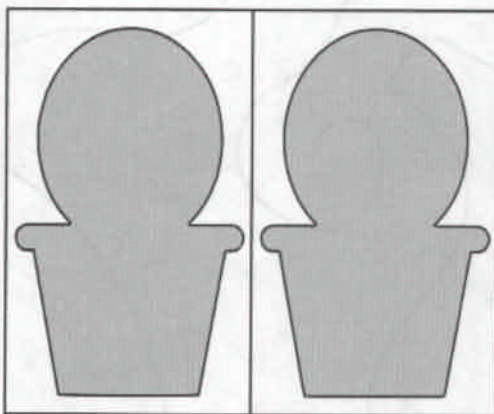


**Easy Interlocking
Unicorns**

Page 45

SSWC Issue 82

Designer: Dove Van Ess



Compound-Cut Cacti

Page 50 - SSWC Issue 82

Designer: Sue Mey



Inner Body
1/2" thick

1/2" thick

Ramp Walker Toys

Page 28 - SSWC Issue 82

Designer: Paul Fellay

8B

diameter
hole

Inner Body
1/2" thick

7/64"-diameter
hole

Swinging Leg
1/2" thick

Foot
Cut 2 - 1/2" thick

Body Side
Cut 2 - 1/2" thick

1/4"-diameter
hole

