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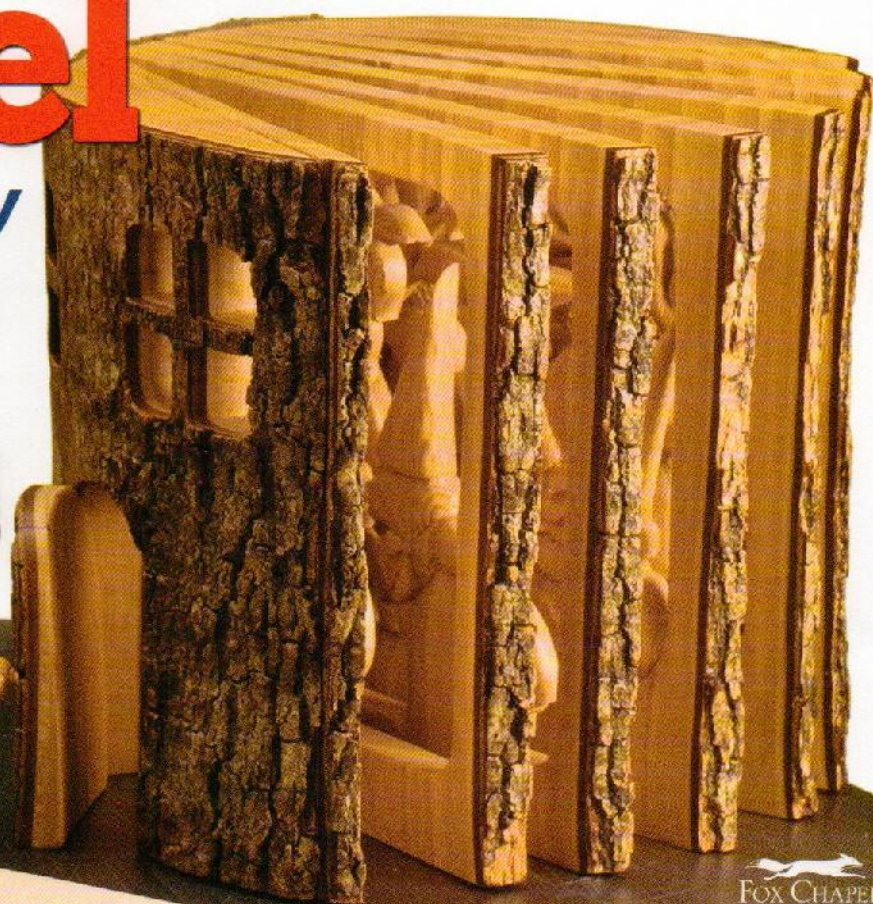
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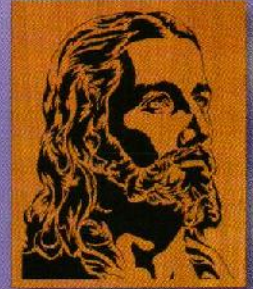
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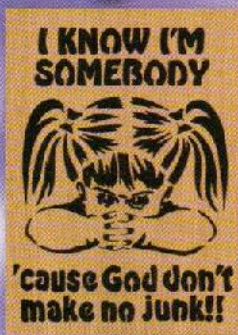
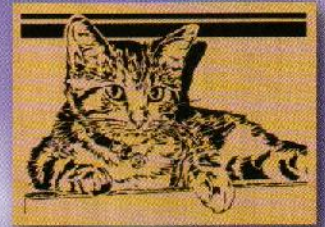
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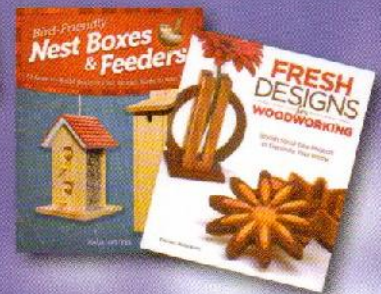
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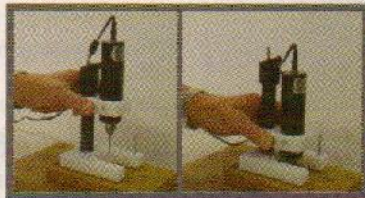
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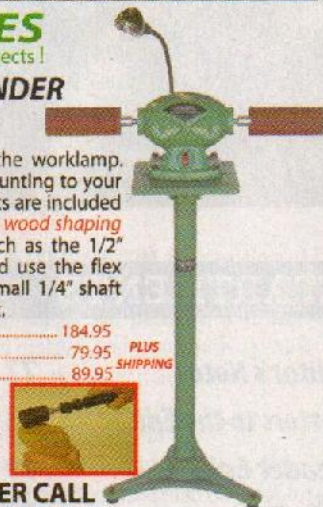
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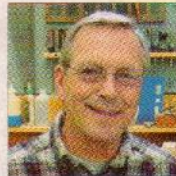
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See more models, buying tips, and saw specs.

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Secret Puzzle Box, p. 48
Download realistic brick, wood, glass and shingle textures to print and paste on the house-shaped puzzle box.

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Just One More Question...

As you know, I have spent the past year or so learning how to scroll. Most of my pieces have turned out fine. (Granted, most of them are puzzles, but they do come apart in both directions.) But I have also run into some ... challenges. For example, I tried to cut a puzzle box out of 2"-thick cherry. It was tough. The blade barely cut the wood, the blank chattered like crazy on the saw, the wood scorched, and the box key doesn't fit very well. Why? And how do I avoid that in the future?

Then I cut some ornaments out of thin plywood. I had purchased a packet of small blades at a show, but they were so small that I couldn't figure out which was the top end. To be honest, they seemed to cut both ways.

Finally, a friend stopped by to cut a small fretwork door from an inch-thick piece of hardwood. She broke a dozen blades while scrolling a simple 8"-square design. I knew something was wrong but couldn't tell her what.

I started coming to work with questions: How do I know which blade to use? Why do blades break? Why does the wood burn? Do I have to mail-order blades or will the kind at the local superstore work? And, really, which way is up?

I realized that if I have that many questions about blades, you might, too. Our magazine gains new readers, many of whom are new scrollers, every year, and I have seen and heard some of the same questions asked on our web forum and at trade shows. Even the more experienced scrollers might be comfortable choosing blades for one type of project or variety of wood but feel uncertain when planning something new.

Fortunately, I sit right next to the technical editor, so Bob Duncan very patiently instructed me in the art of blade choice. And then he answered the questions again in writing so we could share the information with you in this issue's article, "Choosing the Right Blade" (page 70). Our art director, Jon Deck, created a handy pull-out chart that you can hang in your workshop for easy reference (page 73). Between the two, all of my questions have been answered and I feel confident in my ability to choose the right blade for my next project. However, if you still need a little guidance, please log on to our forum or stop by our Facebook page—we'll be happy to help.

Mindy Kinsey
kinsey@FoxChapelPublishing.com

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Saying Thanks

Our woodworkers guild has a special interest scroll saw group. At our monthly meeting we have a show and tell. And as the past few months have gone by, we have made a lot of the projects from the Summer 2012 issue (Issue 47). Our group wanted to say thank you to *Scroll Saw Woodworking & Crafts* for the great projects in your publication.

David A. Roth

Kansas City Woodworkers Guild
Scroll Saw Group

Via e-mail



Photo by Neal Ray Shogger

Members of the Kansas City Woodworkers Guild Scroll Saw Group with projects inspired by the Summer 2012 issue of *Scroll Saw Woodworking & Crafts*.

Scroll Saw Basics

I have been scroll sawing for a number of years. I remember once hearing someone say that one should adjust the speed of the saw to the work. It seems there should be a book I could obtain that would lead me through the necessary (and unnecessary but nice) steps for sawing. Can you point me in the proper direction, please?

Bob Bishop

Via e-mail

Editor's Note: For most beginners, we suggest John A. Nelson's Scroll Saw Workbook, available from Fox Chapel, www.foxchapelpublishing.com. It includes information for scroll sawyers of any skill level.

We also include some general information in the *Scroll Saw Basics* on page 78.

Scrolling with Multiple Sclerosis

I just wanted to let you know I enjoyed your article on Richard Frano in *Scroll Saw Woodworking & Crafts* Spring 2011 (Issue 42). I also have multiple sclerosis and had been researching scroll sawing when I saw the online mention. I went out and found a copy of the magazine and ended up getting a saw for my birthday. I also do other woodworking and can't wait to get started scroll sawing.

Jack Edwards

Via e-mail



Fox Hunt

Mike Roth of West Carrollton, Ohio, and Raymond Watson of Pinellas Park, Fla., were randomly drawn from the participants who located the fox in our last issue (Holiday 2012, Issue 49). The fox was located in the Sawdust article on page 80 in the photo of the doll cradles.

Find the fox in this issue, contact us, and tell us the page number and location. Two readers randomly selected from all correct replies will receive a \$25 Fox Chapel Publishing gift certificate. Entries must be received by March 1, 2013, to be eligible. *NOTE: The contest fox is an outline drawing that would face left if his feet were on the "ground" (other foxes appearing in SSW&C don't count).*

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

SET IT STRAIGHT

Good news from DeWalt! We received an e-mail notifying us that, contrary to our report in the Holiday issue (Issue 49), the DW788 saw is still in production and available. According to DeWalt's director of sales, "DeWalt (owned by StanleyBlack&Decker) has no plans to discontinue the DW788 scroll saw. It is a great seller for us and we are very proud of the quality and customer satisfaction of the DeWalt DW788 scroll saw." We regret the error. Per our review, we still think the Delta 40-695 is a terrific saw, but it should be considered for its own merits, not as a successor to the DW788.

For those who don't know, and we didn't, DeWalt and Delta are now separate companies developing their own product lines. You can check out DeWalt's saws at www.DeWalt.com and visit Delta at www.DeltaMachinery.com



Let's Hear From You

We'd love to hear 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*, 1970 Broad Street, East Petersburg, Pa., 17520 or e-mail Editors@ScrollSawer.com.



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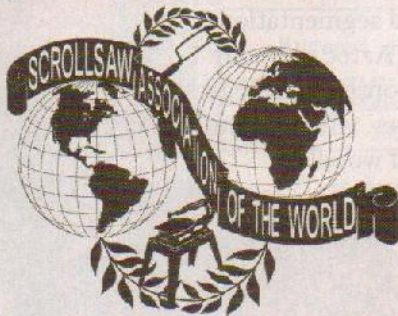
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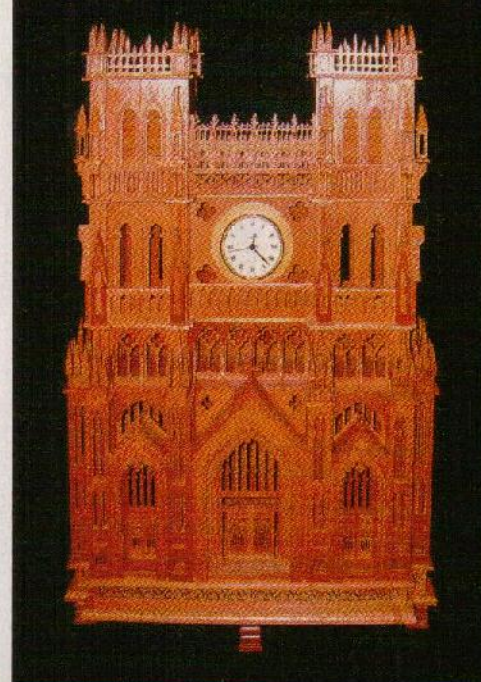
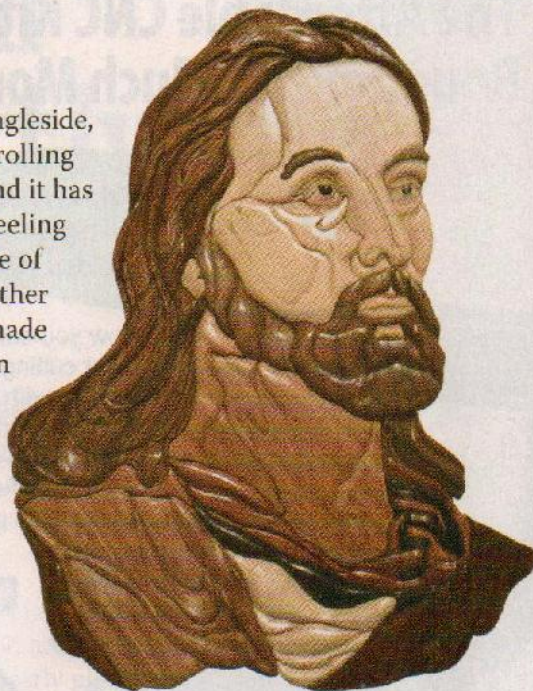
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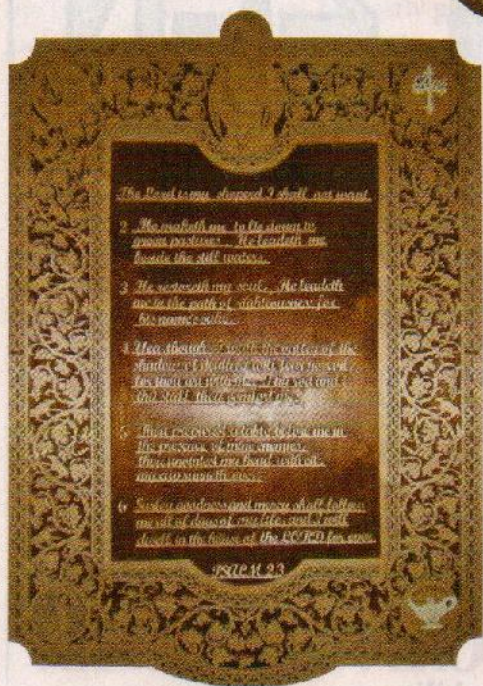
Jesus Portrait ▶

Keith Kalinowski of Ingleside, Ill., said he has been scrolling for about three years and it has changed his life. "The feeling of bringing a plain piece of wood to life is like no other to me," he said. Keith made this Bruce Worthington design from various hardwoods, including cocobolo, ebony, Santos rosewood, bloodwood, walnut, and mahogany.



Cathedral Clock ▲

Theo Kampes of Bellevue Heights, S. Aust., Australia made this Amiens Cathedral mantel clock from a pattern by John Nelson. Theo cut the clock from Australian silky oak and Queensland hoop pine. The five-level design uses challenging compound scrolling techniques.

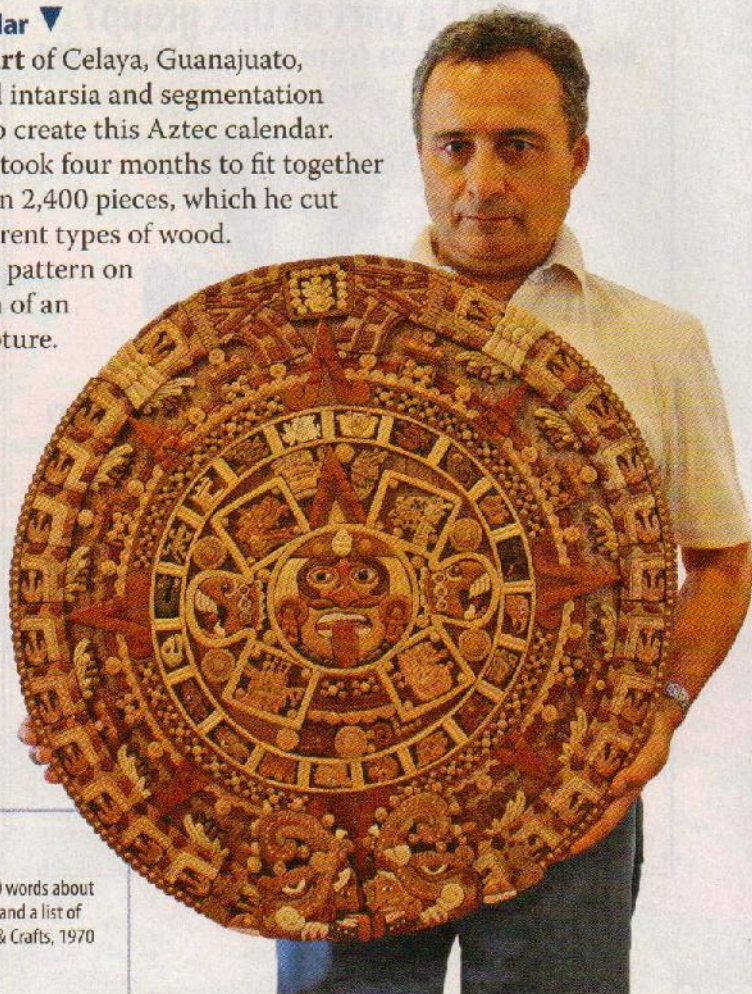


23rd Psalm ▲

Allan Fice of Oshawa, Ont., Canada, made a modified version of Dirk Boelman's 23rd Psalm pattern. He used Wood Trax to modify the words and added different images to the frame. It took four months of on-and-off work to cut the piece, which measures 27" by 40" and is made of 3/8"-thick Baltic birch plywood. "The extremely intricate detail in the frame called for a lot of patience," said Allan, who is 81 years old and has been scrolling for 15 to 20 years.

Aztec Calendar ▼

Pedro Felisart of Celaya, Guanajuato, Mexico, used intarsia and segmentation techniques to create this Aztec calendar. Pedro said it took four months to fit together the more than 2,400 pieces, which he cut from 30 different types of wood. He based the pattern on a photograph of an ancient sculpture.



Share Your Latest Work!

Send a slide, professional print, or digital image (300 dpi minimum) with 100 words about you and your piece. Include your hometown, the name of the pattern maker, and a list of woods and materials used. Send to Reader Gallery, Scroll Saw Woodworking & Crafts, 1970 Broad Street, East Petersburg, Pa., 17520 or e-mail editors@ScrollSawer.com.

Dragon Challenge

Readers approach pattern with cleverness and creativity

In the Holiday 2012 issue of the magazine (Issue 49), we printed a pattern of intertwined dragons and asked our readers to show us what they could do with it. Ten readers submitted designs. We are sharing our four favorites here; the other six will be posted on our website, www.scrollsawer.com. Thanks to everyone for participating.



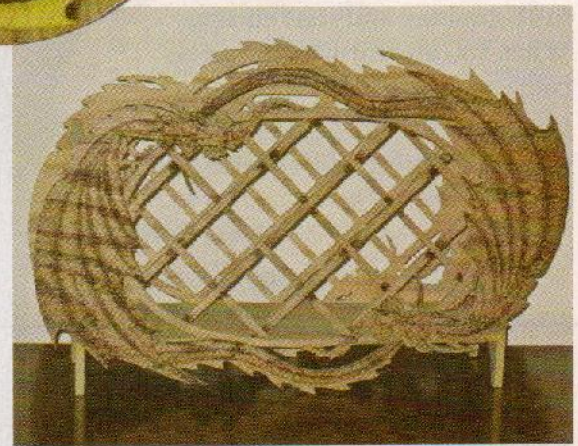
◀ Dragon Clock

Jerry Taylor of Childress, Tex., turned the pattern into a clock for his daughter, who is crazy about dragons. Jerry cut the clock from pine and used oil paints to stain the wood different colors. The hour marks are opals, and you can rotate the clock 180° to change the color of the opals.



▲ Intarsia Box

Kathy Lindsey of Coquille, Ore., created an intarsia box using the intertwined dragon pattern. The 7"-tall box is made from cedar. Kathy used walnut, padauk, mahogany, yellowheart, spalted maple, and oak for the 40 pieces that compose the intarsia.



▲ Fretwork Magazine Rack

Manfred Wegner of Bergenfield, N.J., made a magazine rack. He cut the piece from ¼"-thick oak plywood and added the dragon details with a woodburner. Then, he went back and burned some shadows to make the center appear to be woven together like a basket.



◀ Dragon Light Switch Cover

Allen Martin of Vero Beach, Fla., used the double dragon pattern to create a switch plate. He slightly simplified the design to suit the small size of his project (4 ¼" by 6 ¾").

Simple Stack Cutting

When I need to attach blanks to each other to stack cut, I apply blue painter's tape to one surface on each blank and apply a light coat of spray adhesive to one tape-covered surface. Press the two tape-covered surfaces together, allow the adhesive to dry for 10 to 15 minutes, and start cutting. When you are finished, the pieces come apart easily and there is no residue on the blanks. The tape also provides extra lubrication for your blades.

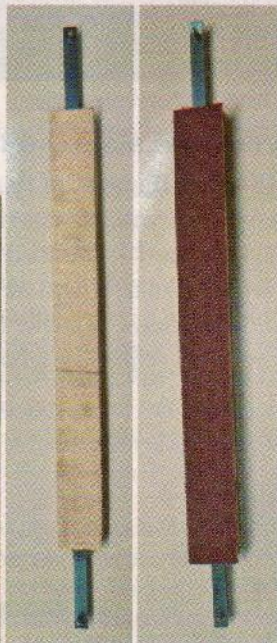
TOP TIP

Jerry Bair
Duncanville, Tex.



Two blanks covered with painter's tape can be sandwiched together with spray adhesive for quick and easy stack cutting.

Power sand your frets with this shopmade tool, constructed from two pieces of wood, epoxy, and a spent #12 blade.



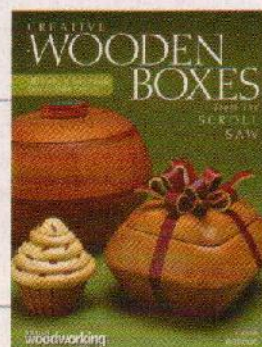
Shop-made Scroll Sanders

I use old #12 blades to make my own scroll sanders (sanders that use the action of the scroll saw to sand the insides of frets). While my saw uses pin-end blades, you could easily use plain-end blades as well.

Cut two pieces of $\frac{1}{8}$ " (3mm)-thick wood to about 4" (102mm) long and $\frac{1}{2}$ " (13mm) wide. With a router or chisel, carve a recess in one piece of wood to accommodate the #12 blade. Use epoxy to glue the two pieces together around the scroll saw blade, centered from top to bottom on the blade. Allow the epoxy to dry, and sand everything smooth. Use contact cement or spray adhesive to attach the sandpaper to the wood, and then install the blade into the scroll saw as usual.


Roni Shalmoni
Israel

TOP TIP in our Summer issue wins a copy of *Creative Wooden Boxes from the Scroll Saw* autographed by the author, Carole Rothman. Send your tips or techniques to Bob Duncan, Fox Chapel Publishing, 1970 Broad Street, East Petersburg, PA 17520, or Duncan@FoxChapelPublishing.com



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New Intarsia Association

Intarsia enthusiasts looking for a place to share their passion; learn tips, tricks, and techniques; and interact with fellow hobbyists have a new home: the National Intarsia Carvers Association (NICA). Founded in July 2012, NICA is seeking charter members to collaborate on the development of the organization, take leadership positions, and share their love of intarsia with fellow scrollers.

NICA'S first step in bringing intarsia-minded people together is the Discover the Art in Intarsia extravaganza being held in Cedar Rapids, Iowa, on March 9 and 10, 2013. The show will include an in-depth half-day seminar by Judy Gale Roberts (advance registration required), as well as vendors, door prizes, mini classes, and a wood art gallery.

NICA membership is \$25 for individuals and \$30 for families. Charter members will receive special perks, such as free gifts and discounts. For more information about NICA or the Discover the Art in Intarsia show, please contact the association's vice president, Joannie West, at 319-551-3126 or DiscoverTheArtInIntarsia@yahoo.com.

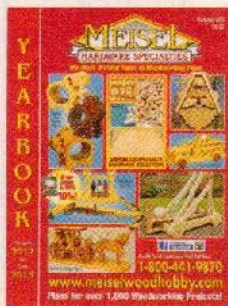


Judy Gale Roberts' intarsia raccoon will be the feature of a half-day seminar.



Call For Entries

The San Diego Fine Woodworker's Association (SDFWA) is inviting entries for their annual exhibit and competition, the Design in Wood Exhibition. Design in Wood is cosponsored by the SDFWA and the San Diego County Fair, and usually attracts more than 1.5 million attendees over the course of three weeks. The theme for 2013 is "Game On," and the competition is open to all woodworkers. More than 350 entries are expected, and awards will total more than \$21,000. The entry deadline is May 3, 2013. For categories and entry information, visit www.sdfwa.org/designinwood2013 or enter online at www.sdfair.com/entry/designinwood.



New hobbyist catalog features more than 700 woodworking projects.

Updated Catalog Available

Meisel Hardware Specialties has released a new catalog featuring plans for more than 700 woodworking projects for the hobbyist woodworker. The catalog also includes hard-to-find woodworker's hardware that isn't available anywhere else. To request a free copy, call 800-441-9870 or visit www.MeiselWoodHobby.com.

Calendar of Events

Mar 9-10: Cedar Rapids, Iowa. Discover the Art in Intarsia. Hawkeye Downs Expo Center, 4400 6th St. SW. 9am-5pm Sat. & 9am-4pm Sun. Adm \$5 for one day, \$7 for both days. Preregistration is required for the Judy Gale Roberts seminar. Contact Joannie West, 319-551-3126 or DiscoverTheArtInIntarsia@yahoo.com.

May 18-19: Cuyahoga Falls, Ohio. North Eastern Ohio Scroll Saw Picnic. Quirk Cultural Center, 1201 Grant Ave. 9am-4pm Sat. & 9am-3pm Sun. \$6/day in advance; \$8 both days; \$7 at the door. Advance registration for seminars and Saturday dinner are required. Contact www.northeasternohioscrollers.yolasite.com.

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NEW! – will ship 2/15

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A Step-by-Step Guide to Getting Started in Pyrography
 By Simon Easton
 This book makes it easy for the beginning pyrographer to get started, with fifteen step-by-step woodworking projects and 50 bonus patterns.

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NEW! – will ship 2/15

Paper Cutting Old & New
Scherenschnitte for the Modern Crafter
 By Carole Behrer and Suzanne McNeill
 The intricate and symmetrical patterns of this lovely Pennsylvania Dutch paper cutting tradition make great fretwork designs for the scroll saw!

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 Code: DO5404



NEW!

Fresh Designs for scroll saw projects:



Fresh Designs for Woodworking
Stylish Scroll Saw Projects to Decorate Your Home
 By Thomas Haapapuro
 Awaken your modern design aesthetic with 21 striking contemporary designs for the home, with detailed patterns, easy-to-understand instructions, and step-by-step photography.

\$19.99 • Code: 5373



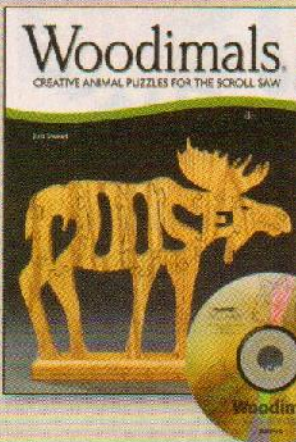
More Fresh Designs for Woodworking Pattern Pack
 By Thomas Haapapuro
 Nine more original and imaginative projects for the scroll saw from this inspired woodworking artist.

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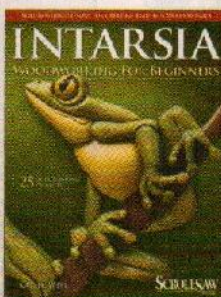
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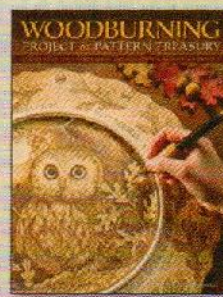
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Skill-Building Lessons for Creating Beautiful Wood Mosaics: 25 Skill Building Projects
 By Kathy Wise
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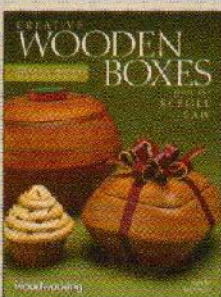
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Create Your Own Pyrography Art with 75 Mix-and-Match Design
 By Deborah Pompano
 A fresh take on the craft of woodburning

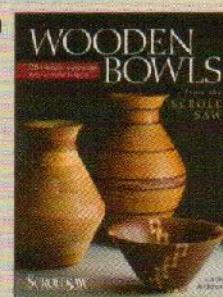
focusing on the drawing, lettering, and design elements that add dimension and composition to any pyrography project.

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Creative Wooden Boxes from the Scroll Saw
28 Useful & Surprisingly Easy-to-Make Projects
 By Carole Rothman
 Use the versatility of the scroll saw to make bandsaw-style boxes, jewelry boxes, lidded boxes and more.

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Wooden Bowls from the Scroll Saw
28 Useful and Surprisingly Easy-to-Make Projects
 By Carole Rothman
 While wood bowls are commonly made on a lathe, this guided resource shows how to

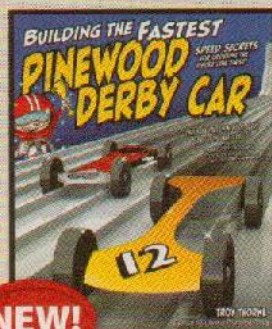
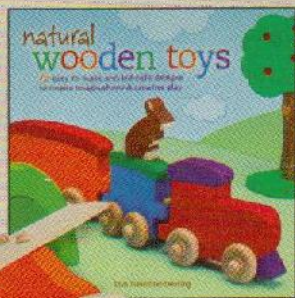
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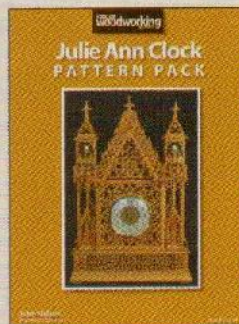
Natural Wooden Toys
75 Easy-To-Make and Kid-Safe Designs to Inspire Imaginations & Creative Play
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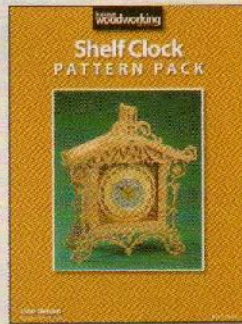
Julie Ann Clock Pattern
\$13.95 • Code: B784



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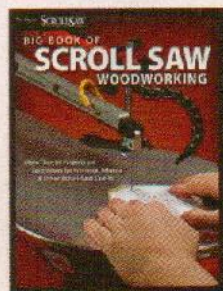


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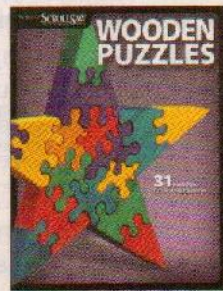


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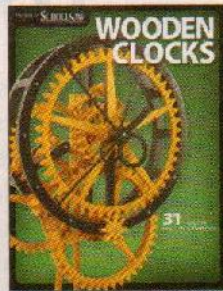
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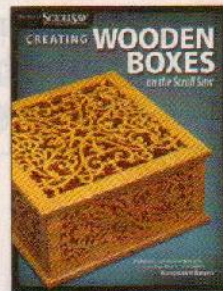
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Teachable Moments

Using the lessons he learned while teaching, Paul Meisel crafts simple, popular designs for his family-run business

By Toni Fitzgerald

When teacher Paul Meisel designed his first project for his junior high woodworking class, he had no idea he was starting down a path that would lead him to owning a business. The way Paul saw it, he was simply filling a need. At the time, during the mid-1970s, there weren't many patterns available that were age-appropriate. "I had 150 kids and they loved building things," Paul said. "One of my challenges as a woodshop teacher was to create projects that my students would be excited to build, projects that piqued their interest but that were appropriate for their skill level and that could be made using basic hand and machine tools."

As Paul began introducing his own projects in class, he discovered something that would eventually spur him to devote more time to his designs. "I found that the better my designs, the more interested students were in making the project. That became my challenge," he said.

Word about his projects got around. Soon he was receiving requests from fellow industrial arts teachers in his suburban Minneapolis area who wanted to use his designs for their students, too. Paul went a step further than that. In the summer of 1978, he took some time off to polish his designs and produce

an actual catalog. If, he reasoned, Minneapolis-area teachers were in need of projects, then teachers in other parts of the country must be, too.

Thus the seed was planted for the company that would eventually become Meisel Hardware Specialties. The first catalog was 12 pages long and contained plans for both woodworking and metalworking projects. "I rented mailing lists of public school teachers and mailed 15,000 catalogs. All of a sudden I was in business!" Paul said. "I worked my mail-order business out of my basement for a year before renting a larger space in the basement of a commercial building."

Paul's audience began to grow. He got calls from hobbyists as well as teachers, and he wanted to branch out to include projects that would interest this new group, too. "I was reluctant to mail them my school catalog as it contained so many school-supply items, which I knew would be of no use or interest to them. That was when my wife, Pat, and I decided we should create a catalog of just woodworking project plans and related hard-to-find hardware which we could direct exclusively to the home hobbyist woodworker," Paul said.

In 1983, Paul produced the first official Meisel Hardware Specialties catalog. Like so many small business owners, he had identified a need and filled it. The focus of the business has always been to create quality project plans with refreshing new designs. This is why the company's slogan is "always new ideas."

These days Meisel Hardware Specialties has just over a dozen employees, three of them related to Paul (four if you count his 8-year-old grandson, who occasionally sells his own projects made of wood or metal scraps in the Meisel showroom; they always fly off the shelves). Greg and Eric Meisel, Paul and Pat's sons, came to work for their parents right after college. They first worked at Turncraft Clocks, a side business that the Meisels picked up two decades ago, which was geared toward clock-making enthusiasts. "I didn't want them going into the business without doing something else first, and I didn't want employees saying, 'Oh, he's the owner's son,'" Paul said.

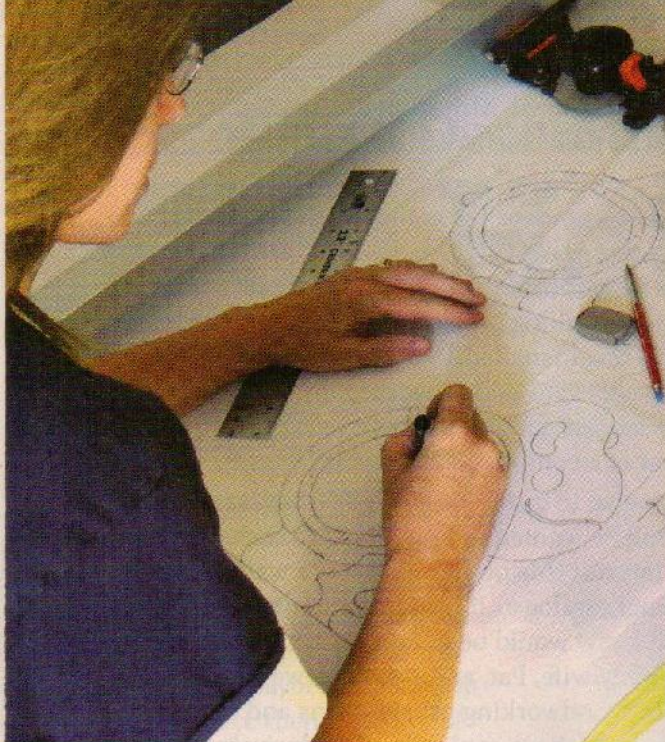
Eric and Greg, now in their early 40s, learned about computer orders, purchasing, fulfillment, creating the catalogs, and every other aspect of the business at Turncraft. "They ran the business, and they got really good," Paul said. "At one point we decided, why don't we just, instead of having two businesses running out of two buildings, put it in one big building? That worked out good."

Paul said there have been no issues with Meisel Hardware Specialties employees feeling threatened by his sons. One reason is that Meisel's longtime workers really feel like family, a feeling that is fostered by so many small businesses. "It's very close to my home, it's very casual," said art director Kim Truax, who has worked for Meisel for 18 years. "There's a coldness to big corporations where you have to prove yourself every day. Here it's just much more relaxed and the people are so friendly."

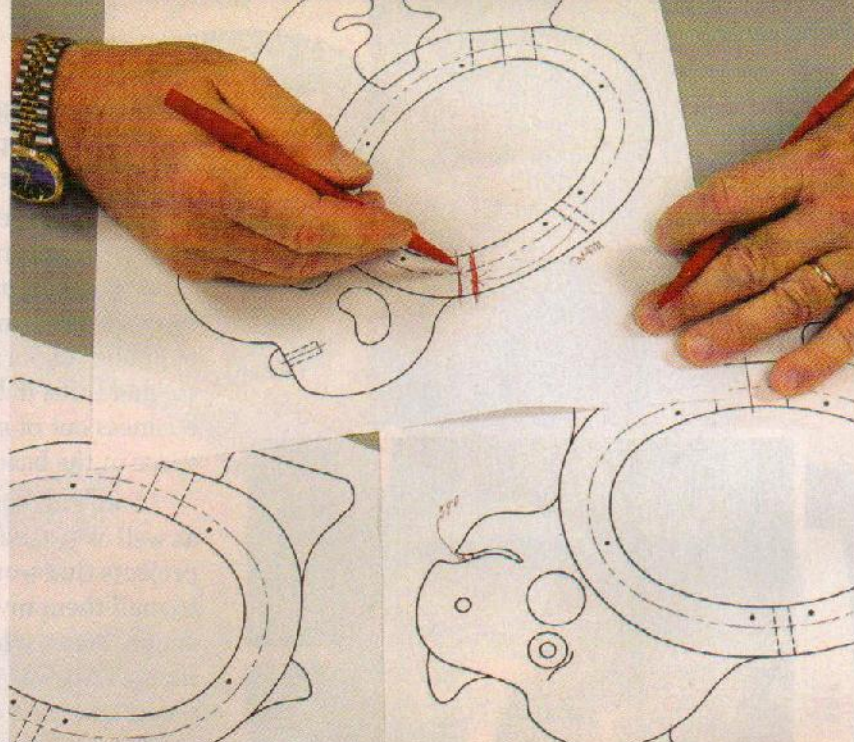


“The better my designs, the more interested students were in making the project.”

—Paul Meisel



Art director Kim Truax, who has worked for Meisel Hardware Specialties for nearly two decades, sketches the shapes of three animals.



A draftsman converts the initial sketches to hard line patterns using an AutoCAD program. The drawings are then proofed carefully.

“It’s like working in Santa’s workshop all year long.”

—Kim Truax

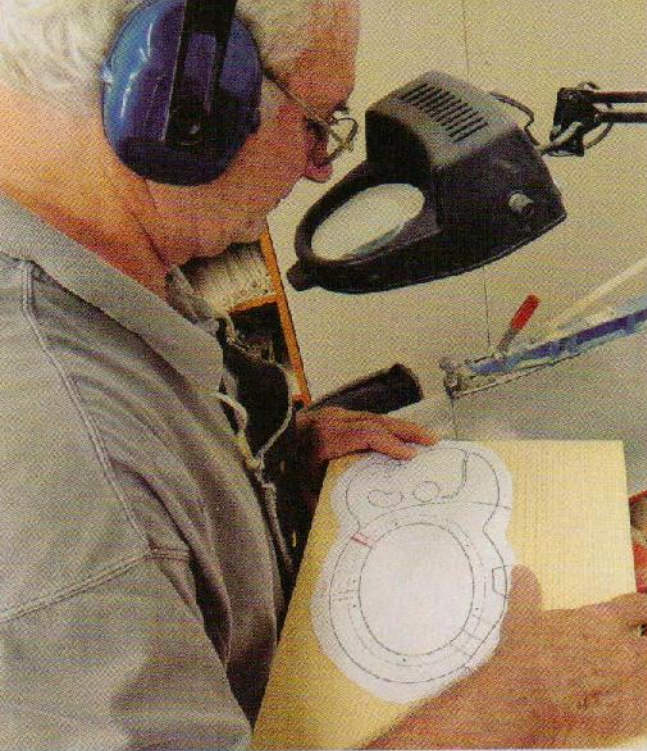
Kim started as a temp working in the call center taking orders. Paul noted her interest in design after she submitted a portfolio, and he made a position for her in the art department, where she has done everything from draw sketches for projects to painting finished products. “It’s like working in Santa’s workshop all year long,” Kim said. “Not only do we design and paint, but we also photograph them, do Photoshopping now, the catalog itself, the layout, converting to PDFs. It’s something different every day, and it’s just fun.”

Fun is what many of Paul’s customers are looking for. His company caters to beginning and intermediate woodworkers; Paul notes that advanced woodworkers tend to be more interested in furniture and projects that they design themselves. The quality and creativity of the design is what attracts Paul’s buyers. The designs don’t require what Paul calls “fancy tools” because he prefers a simple approach. “Some people love purchasing the newest thing. I’m not one of them,” he said. “I find that I rarely use any of the few ‘fancy gadgets’ I have purchased over the years. If we design a project properly, it will have high aesthetic appeal yet will be simple enough to make using only [basic machines].”

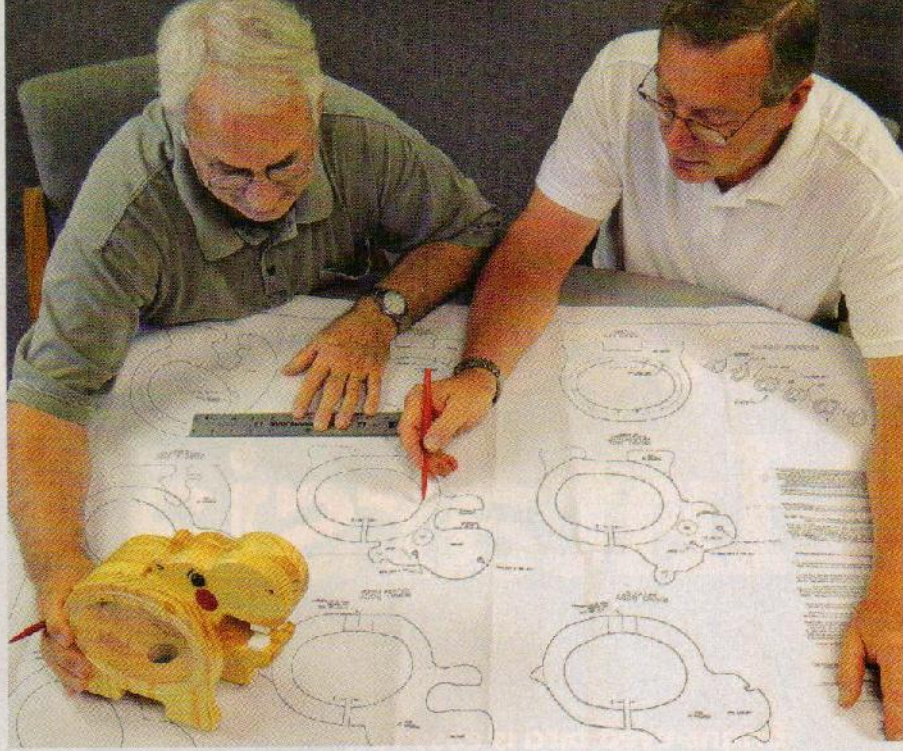
Paul also tries to keep his company’s designs as straightforward as possible so that they’re accessible to a broad audience. “I feel it’s very good to have the simplest of shapes,”



Visit the Meisel Hardware Specialties showroom in Mound, Minn., to see samples of many of the company’s projects.



A lead woodworker cuts the parts from the composite drawing.



After completion, the prototype goes back to the draftsman, who separates the initial composite drawings and creates individual drawings of each part. A bill of materials, plan of procedure, and exploded assembly drawings are completed and a check print is made.



Paul said. "It makes it a lot easier for the person doing the cutting of the wood and even the painting. Our designs are simple for people to make, as a rule."

Paul said his company has never spent a lot of money or time on advertising and promotion. Customers tend to find him, whether through word of mouth or after seeing one of the myriad books or magazine articles he's written for Fox Chapel Publishing over the years.

He's tickled when customers send him photos of their creations. Sometimes they've made a small tweak or two to his original design, but just as often they've followed the instructions right down to what color to paint the end product. Paul notes that his patterns come with step-by-step assembly drawings, a list of materials, instructions, a cutting diagram showing how much lumber is needed, and full-size patterns.

When he first got into the business, Paul used to worry that he'd run out of design ideas. But now, nearly three decades in, he's no longer concerned. "I remember telling Pat in about 1985 that I wasn't sure I could continue to come up with more and more ideas," he said. "She assured me there were many more things I could create, and she was right. Now, all these years later, we have developed plans for well over 3,500 unique projects."

To see more of Paul's projects or to request a catalog, call 800-441-9870 or visit www.MeiselWoodHobby.com.

Red Robin Intarsia

Bright-eyed bird is easy to make but charmingly detailed

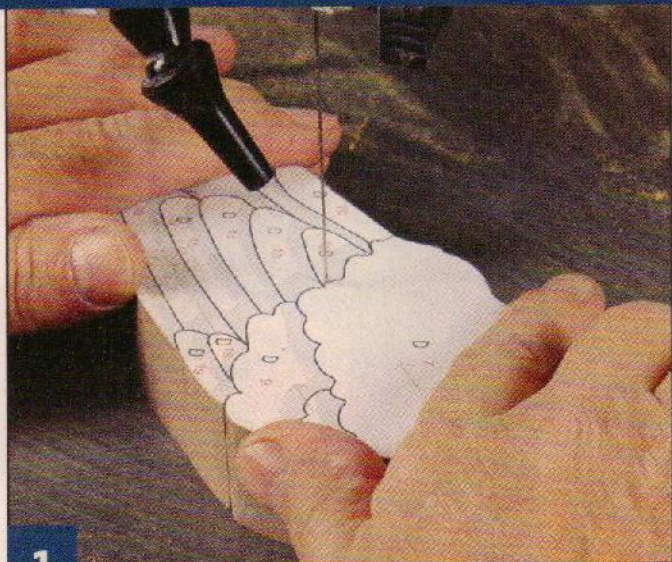
By Kathy Wise

Welcome spring with a small, quick project. This robin design only has about two dozen pieces and they are easy to shape. Depending on your wood selection, you can make a vibrant red male robin or a subtle brown-toned female robin. As an alternative to using colorful exotic hardwoods, you can use dyes to give this avian symbol of spring his color.

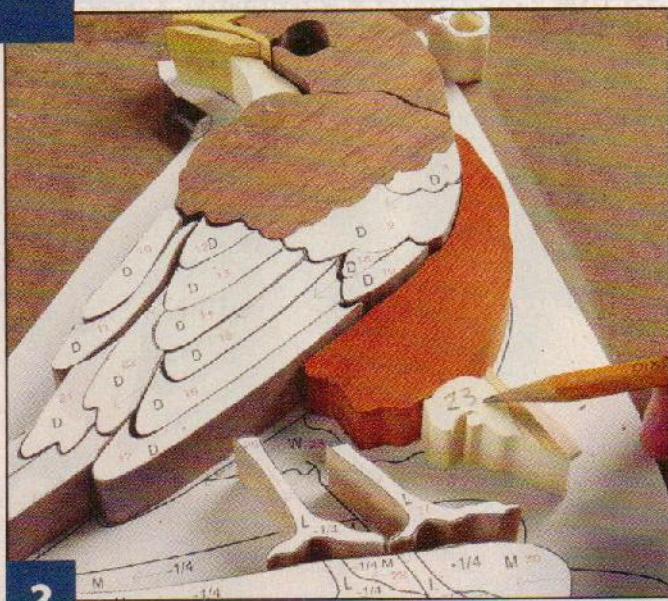
To start, make several copies of the pattern. Keep one as a master copy. Select the wood and plane it to the desired thickness. Cut the pattern pieces and apply spray adhesive to the backs of the patterns. Attach the patterns to the shiny side of clear Con-Tact® shelf paper. Cut the patterns apart, and then peel and stick the patterns to the blanks.



ROBIN: CUTTING THE PIECES



1 **Cut the pieces.** Use a #5 reverse-tooth blade to cut slowly on the lines. Be careful where two pieces of different colored wood meet; the more accurately you cut, the better the pieces will fit together. Use a smaller blade to cut larger sections into smaller pieces (such as the individual feathers). Drill a blade-entry hole in the white eye piece and cut the center before cutting the perimeter of the eye piece. Cut the pupil from a small piece of ebony and use a riser if needed to increase the thickness of the pupil. Cut pieces 7, 8, and 9 to open up the feathers. Then, cut parts 18, 19, 10, and 11. Finally, cut parts 12 to 17.



2 **Check the fit of the pieces.** As you cut the pieces, mark the number on the bottom with a pencil to make sure you don't sand the wrong side. Place the pieces on a pattern taped to the backing board to check the fit. Mark the areas to sand using the shaping guide as a reference.

ROBIN: SHAPING THE PIECES

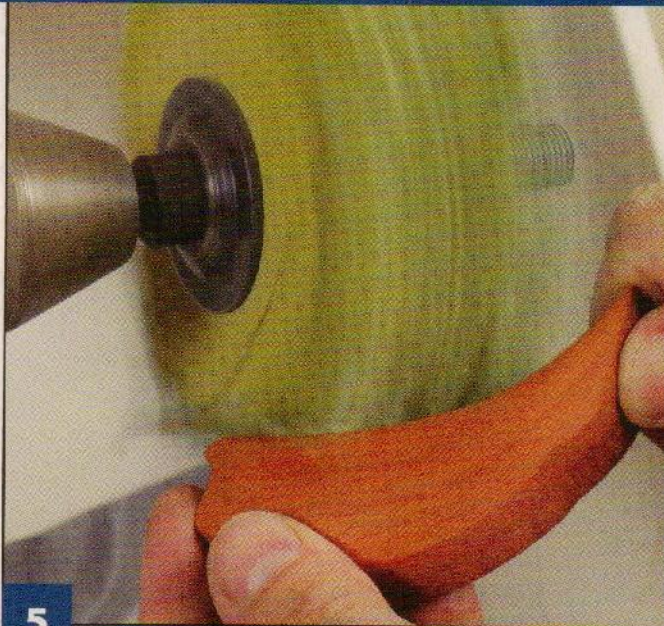


3 **Sand and shape the pieces.** Mark the level you want to sand to, and use a drum sander to sand down to that line. Hold the piece so the line is visible to make sure you don't sand away too much. Start sanding with the lowest pieces; by the time you get to the highest pieces, such as parts 7, 8, and 9, you're really just rounding the edges. Place the pieces back on the pattern often to check the fit and flow. Continue marking and shaping all of the pieces until you are happy with the results.



4 **Add the detail lines.** Use a rotary tool and a sanding drum to add details such as the lines on the legs. Place the pieces on the pattern to check the fit and overall appearance, and make any necessary adjustments. Use a woodburner to add the details to the neck.

ROBIN: ASSEMBLING & FINISHING THE PROJECT



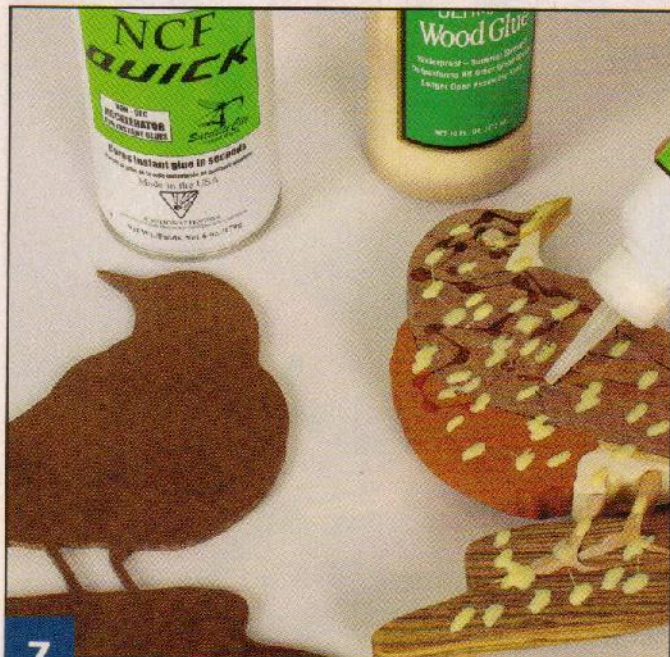
5

Buff the pieces. I use a 220-grit sanding mop to buff all of the pieces. This tool removes any scratches left by coarser grits of sandpaper and creates a smooth surface that makes it easy to apply a finish.



6

Assemble the project. Place the pattern on a flat surface and cover it with waxed paper. Starting with the head, place dots of cyanoacrylate (CA) glue between three or four pieces and hold the pieces together until the glue sets. Then, move on to the adjoining pieces. It's possible to use CA glue accelerator, but you have to get the parts into position quickly. Then, use a portable drum sander, such as a Sand Flee, to flatten the bottom of the intarsia to ensure a tight joint between the intarsia and backing board.



7

Attach the robin to the backing board. Place the robin on top of the pattern and trace any areas where the outline of the robin doesn't match the pattern. Cut the backing board. Turn the intarsia face down and apply dots of CA glue and wood glue to the bottom of the robin. Spray CA glue accelerator onto the backing board. Place the backing board in position and hold for about 30 seconds until the glue sets. Flip the piece right side up and apply uniform pressure to lock everything in place.



8

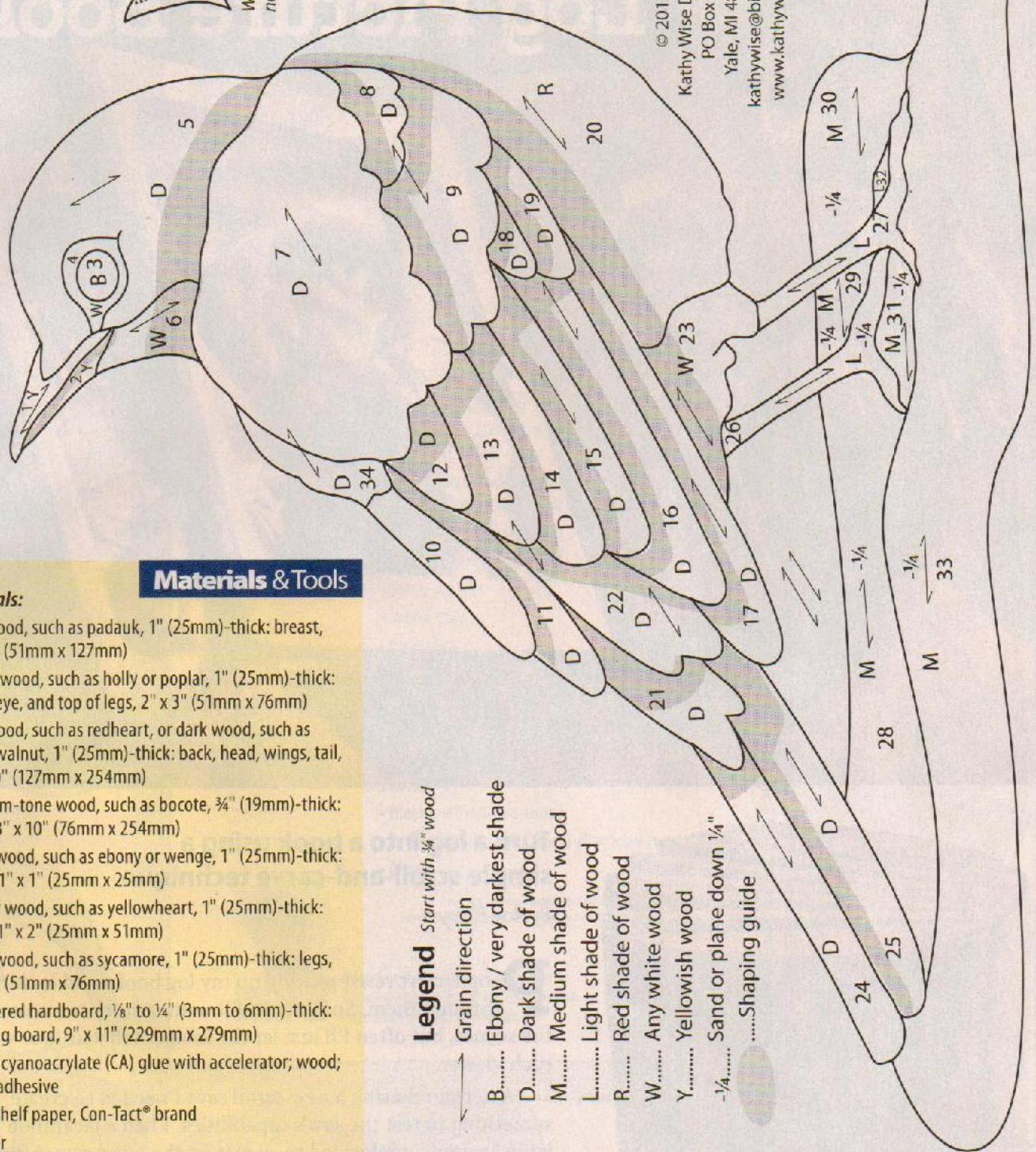
Apply the finish. I use a clear satin spray finish. Apply the finish according to the manufacturer's instructions. Allow the finish to dry overnight. Apply a clear gloss finish to the eye to give it a life-like look, and attach a hanger to the back.

Robin intarsia pattern



Woodburn neck detail

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 Kathy Wise Designs
 PO Box 60
 Yale, MI 48097
 kathywise@bignet.net
 www.kathywise.com



Materials & Tools

Materials:

- Red wood, such as padauk, 1" (25mm)-thick: breast, 2" x 5" (51mm x 127mm)
- White wood, such as holly or poplar, 1" (25mm)-thick: neck, eye, and top of legs, 2" x 3" (51mm x 76mm)
- Red wood, such as redheart, or dark wood, such as black walnut, 1" (25mm)-thick: back, head, wings, tail, 5" x 10" (127mm x 254mm)
- Medium-tone wood, such as bocote, 3/4" (19mm)-thick: base, 3" x 10" (76mm x 254mm)
- Black wood, such as ebony or wenge, 1" (25mm)-thick: pupil, 1" x 1" (25mm x 25mm)
- Yellow wood, such as yellowheart, 1" (25mm)-thick: beak, 1" x 2" (25mm x 51mm)
- Light wood, such as sycamore, 1" (25mm)-thick: legs, 2" x 3" (51mm x 76mm)
- Tempered hardboard, 1/8" to 1/4" (3mm to 6mm)-thick: backing board, 9" x 11" (229mm x 279mm)
- Glues: cyanoacrylate (CA) glue with accelerator; wood; spray adhesive
- Clear shelf paper, Con-Tact® brand
- Hanger

Legend

- Start with 3/4" wood
- Grain direction
- B..... Ebony / very darkest shade
 - D..... Dark shade of wood
 - M..... Medium shade of wood
 - L..... Light shade of wood
 - R..... Red shade of wood
 - W..... Any white wood
 - Y..... Yellowish wood
 - 1/4..... Sand or plane down 1/4"
 - Shaping guide

Tools:

- Blades: #5 reverse-tooth, #3 reverse-tooth
- Sanders: pneumatic drum; portable drum, such as a Sand-Flee; sanding mop
- Rotary carver or die grinder
- Pencil
- Woodburner

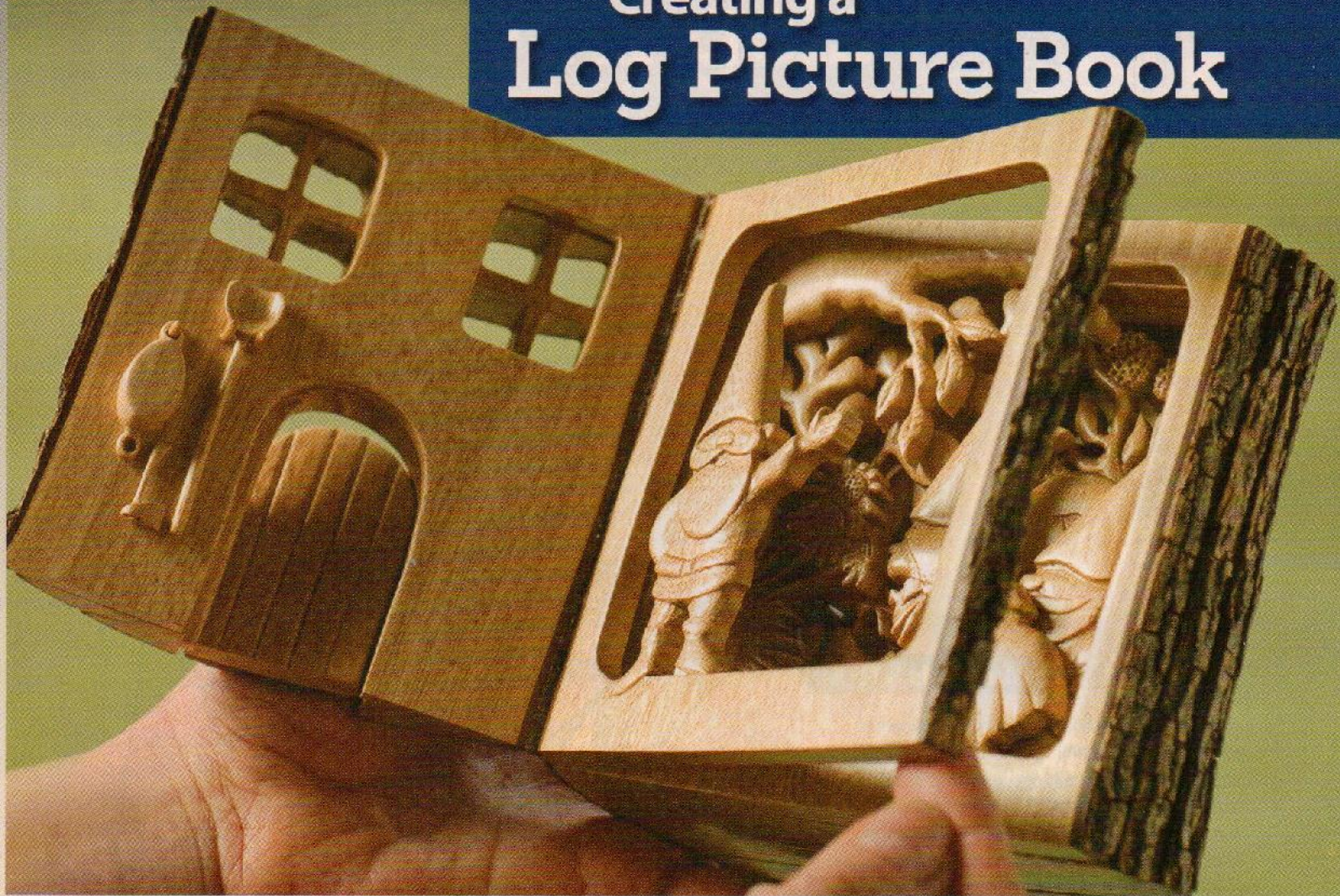
The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.



A nationally acclaimed intarsia artist, Kathy Wise has written two books and more than 30 articles. Her new book, *Intarsia Birds: Woodworking the Wise Way*, has more than 30 beautiful bird patterns. Private and semi-private intarsia classes are available. For a free catalog of 500 patterns, contact Kathy Wise Designs Inc., P.O. Box 60, Yale, Mich. 48097, fax 810-387-9044, www.kathywise.com, kathywise@bignet.net.



Creating a Log Picture Book



Turn a log into a book using a simple scroll-and-carve technique

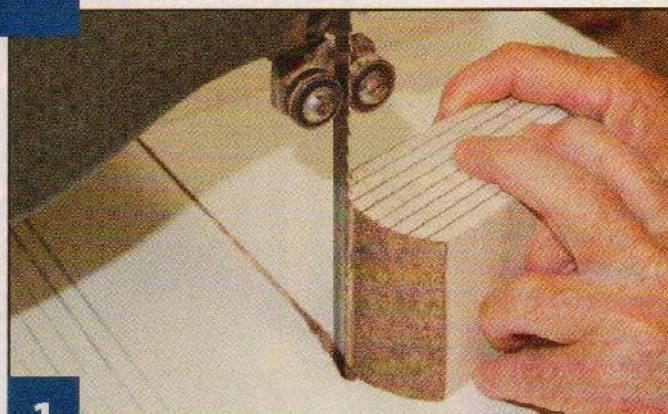
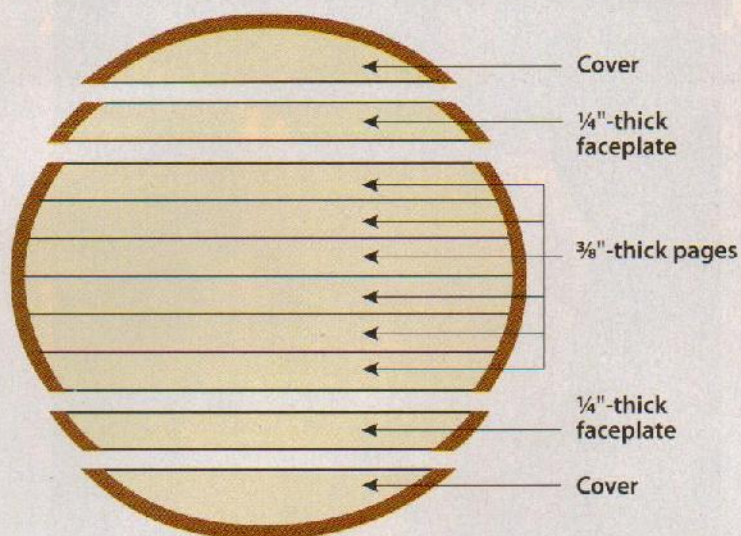
By Roy Ellery

People can't resist picking up my log books and looking through them. Sometimes I'll write a story to accompany the scenes, but often I'll just let the images tell a unique story to each viewer.

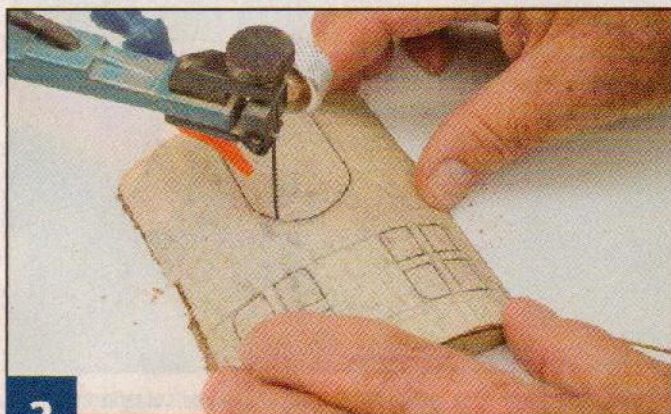
After purchasing a new scroll saw, I needed to create something to test the saw's capabilities. I had a jacaranda log lying around and decided to slice it on the band saw. After cutting some designs on each slice with the scroll saw, I reformed the log. The first log was pinned at the corner and you had to rotate the pages like a fan. Later, I realized there was no reason why I couldn't bind one edge like a book.

My log books usually feature little gnomes that live inside trees. For this project, I use a 5"-diameter jacaranda log cut to about 5" long. Jacaranda is native to my area, but any wood with a uniform light color and good bark retention, such as basswood, will work.

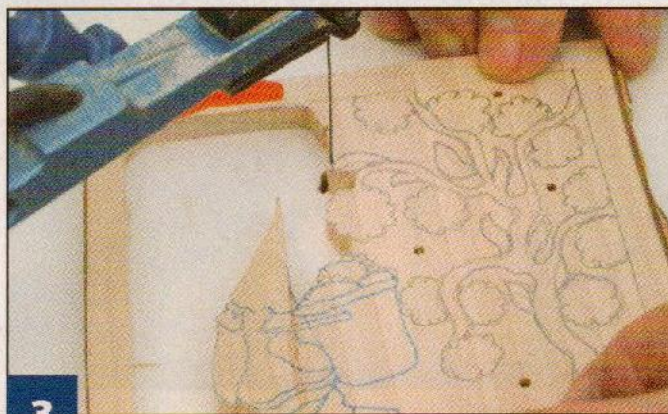
LOG BOOK: PREPARING THE LOG



1 **Divide the log into sections.** Use the drawing at left as a guide to divide the log into pages. After marking the faceplates and the page layers, split the remaining wood between the front and back covers. Use a band saw to cut the front and back covers, and set them aside. Remove the bark from the binding edge and sand it smooth. Then, cut the remaining pages. Keep them in the correct order; I stack them in order and secure the stack with a rubber band.



2 **Cut the front cover pieces.** Use masking tape to cover the whole surface. Draw or trace the design onto the tape. Drill blade-entry holes as required and cut the door and windows using a #1 or #2 blade. Mark and cut the faceplates (the first and last inside sections) using the front and back covers as a guide.

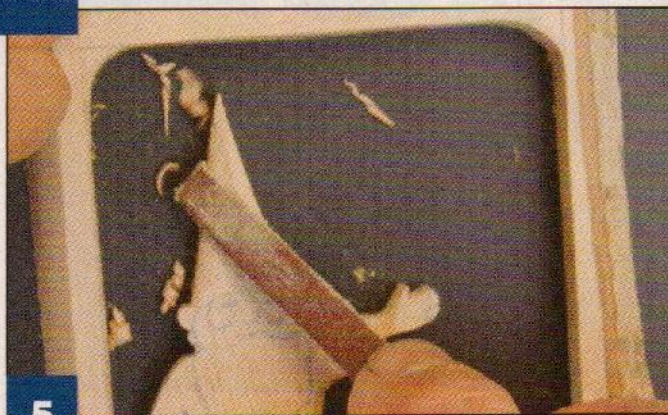


3 **Cut the pages.** Resize the patterns as necessary and then transfer them onto the pages with graphite paper. *Note: Don't glue the patterns to the pages; you will need the traced lines for the carving steps.* Drill blade-entry holes and cut the designs using a #1 or #2 blade. I leave large borders on the bottoms of the pages so I can woodburn a storyline.

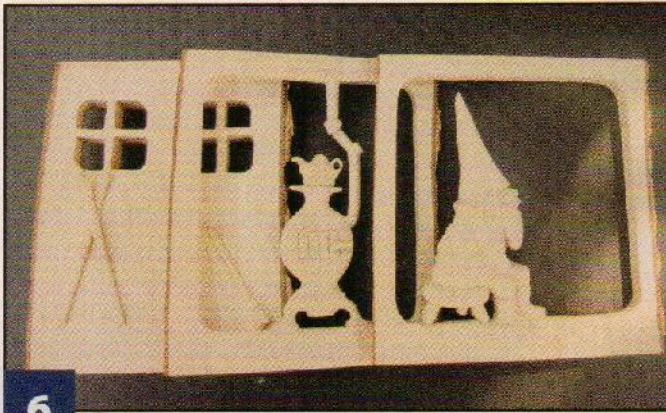
LOG BOOK: CARVING THE PAGES



4 **Begin carving the design.** Use a rotary tool and the point of a flame-shaped or cone-shaped bit to carve along the major lines. Use the side of a bit to round and shape the pieces in low relief. Use a small ball-shaped bit to add texture to the trees and other areas around the scene. This bit works especially well for adding fruit and leaves. *Note: See page 34 for more information on rotary tools.*



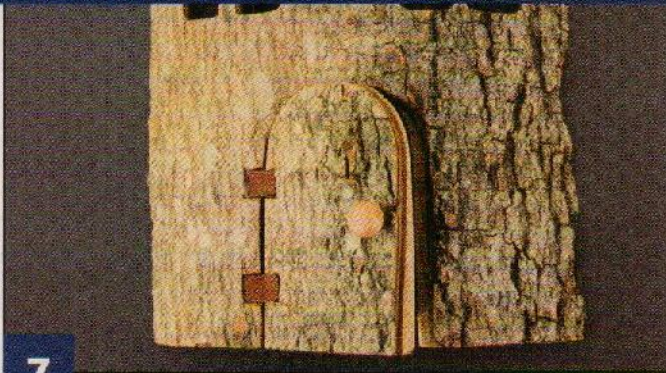
5 **Sand the carvings smooth.** Use a sanding drum, riffler files, and sandpaper to smooth the designs. I use progressively finer grits of sandpaper up to 400 grit.



6

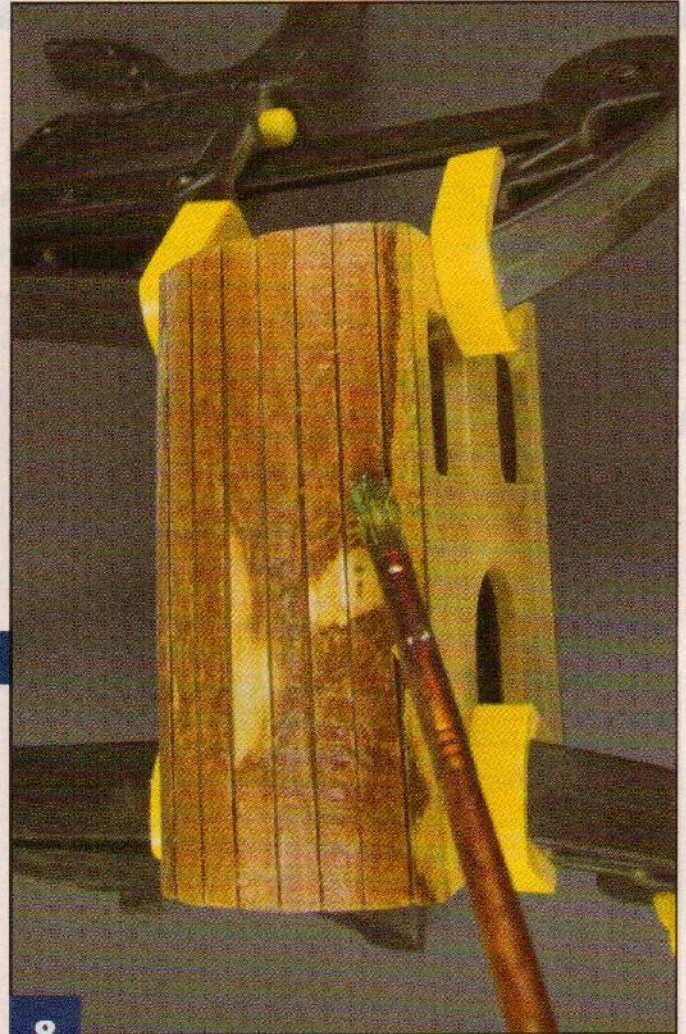
Add the final embellishments (optional). You can add extra items to the faceplates, such as a shovel, an ax, or a pair of skis. To determine where to position these items, place the nearby pages on top of the plates and trace around the elements so you know where there is extra space. Use your imagination to embellish the scenes.

LOG BOOK: ASSEMBLING THE BOOK



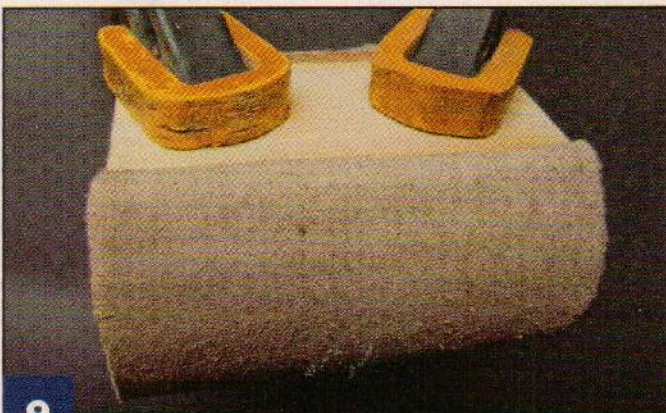
7

Attach the front door. Carve a doorknob, drill a small hole, and glue the knob in place. Then, carve notches through the bark for the leather hinges on the door and doorframe, cut the leather to size, and glue it in place.



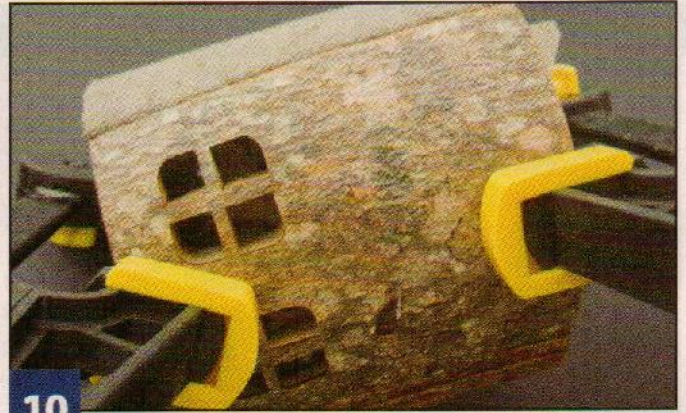
8

Prepare to glue on the binding. Apply four coats of satin polyurethane to both sides of each page, sanding between coats with fine-grit sandpaper. When dry, stack the faceplates and other pages together in the correct order and clamp them tightly together with rubber-tipped clamps. Coat the binding area with contact cement, but do not apply so much cement that it runs between the pages and sticks the pages together.



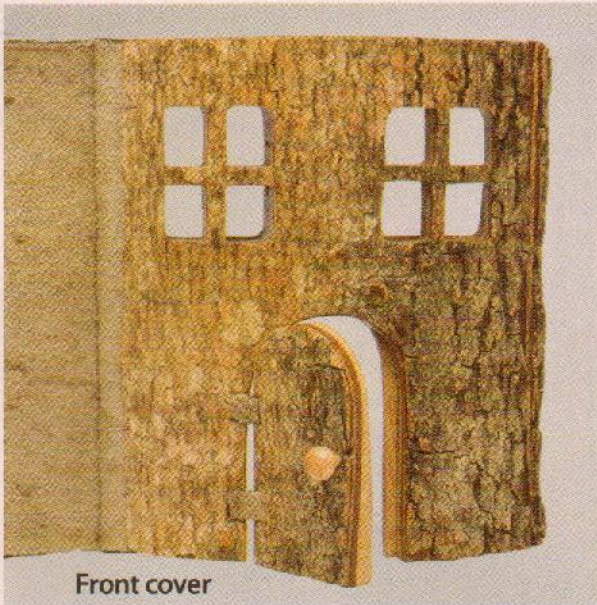
9

Prepare the binding. Cut enough leather to cover the spine and overlap onto the faceplates. Coat the binding material with contact cement and allow the cement to dry. Stretch the binding over the spine and press it into place. Tap the binding material with a small soft hammer to make sure you get a good glue adhesion.

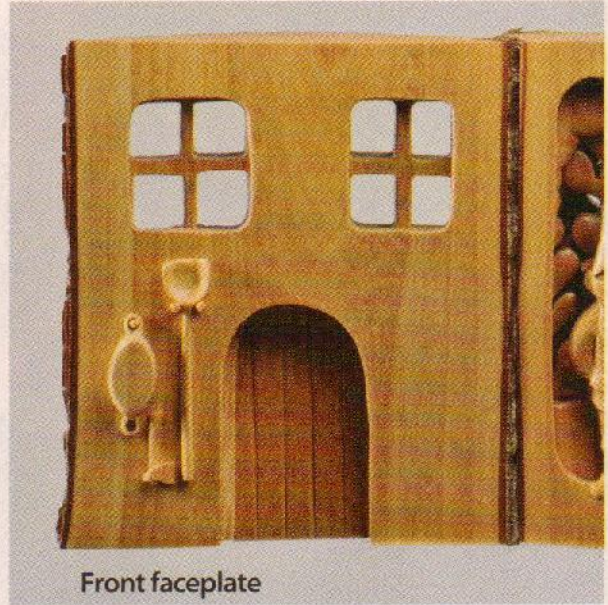


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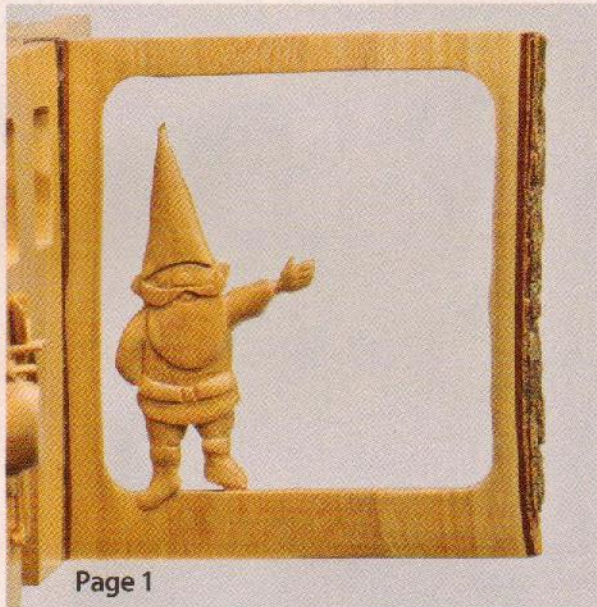
Attach the covers. Use small scissors to trim the excess binding from the top and bottom. Use a steel ruler and knife to cut a straight line on the binding on the faceplates. Apply wood glue to the edges of the appropriate faceplates, but make sure the glue will not squeeze out on the inside of the book. Place the covers in position and clamp the book together overnight to allow the glue to dry.



Front cover



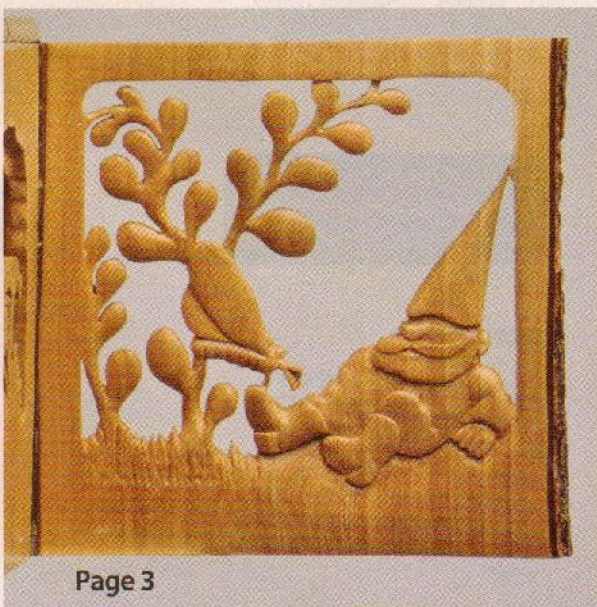
Front faceplate



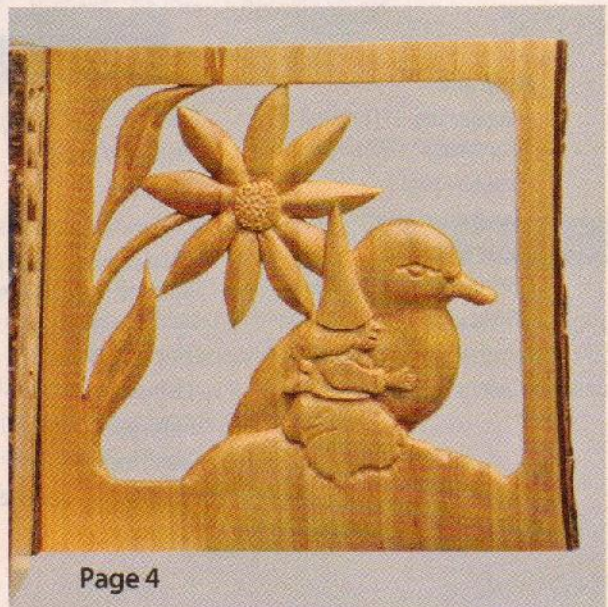
Page 1



Page 2



Page 3



Page 4



Page 5



Page 6



Back faceplate



Back cover

Materials & Tools

Materials:

- Wooden log, 5" (127mm)-diameter: 5" (127mm) long
- Graphite paper
- Sandpaper: assorted grits up to 400-grit
- Polyurethane spray finish
- Wood glue
- Leather or faux leather
- Contact cement

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

Tools:

- Blades: #1 or #2
- Band saw
- Drill and assorted bits
- Rotary-power carver and assorted small bits and sanding drums
- Fine rifflers
- Clamps
- Small paintbrush
- Small hammer
- Woodburner (optional)

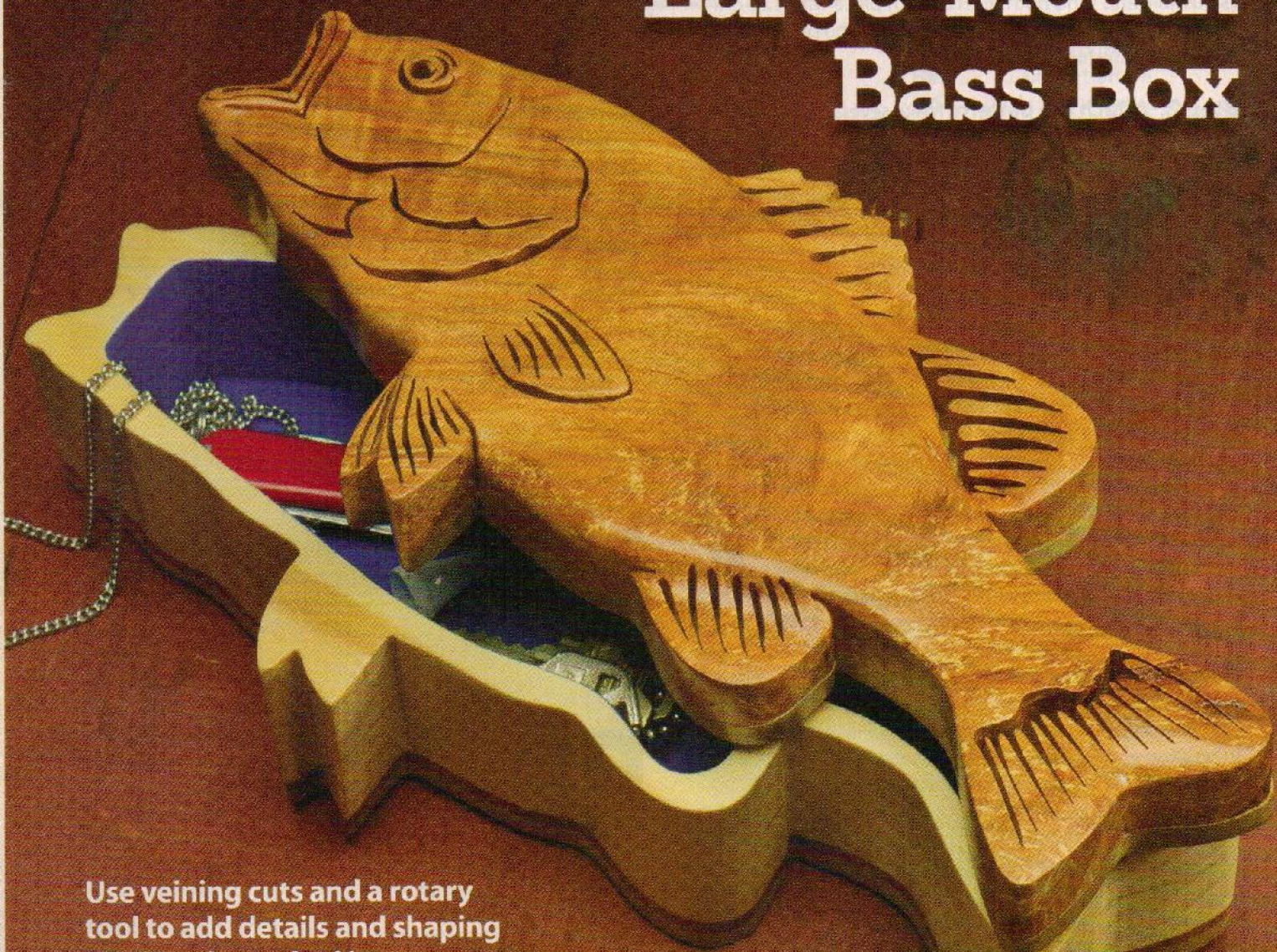
Patterns for the **LOG PICTURE BOOK** are in the pattern pullout section.



Roy Ellery lives in Iluka, New South Wales, Australia, and is a member of Northern Rivers Woodworkers Association. Roy has

been working with wood for about 15 years.

Large-Mouth Bass Box



Use veining cuts and a rotary tool to add details and shaping to a simple stacked box

By L. Kim Braa

Friends recently suggested I design boxes shaped like freshwater fish. The first one I made was this large-mouth bass; I had a perfect piece of maple in mind for the lid. After cutting the frets, I thought the lid looked too flat, so I added depth and dimension using a rotary tool and sanding drums. I believe it was worth the extra effort and gave the bass a more realistic appearance—like he could swim right off your shelf!

The project uses a simple stacked-ring method to make the box sides. This type of construction allows you to mix different thicknesses and colors of wood for the sides. Just be careful to select varieties of wood with similar densities. Different densities of wood sand differently, and it's easy to sand gouges in soft wood while shaping harder wood.



BASS BOX: CUTTING THE SIDES

Step 1: Prepare the stock. Make sure the wood is as flat as possible and sand both sides of each piece with 120-grit sandpaper. Test-fit the pieces to make sure the blanks fit together tightly face to face.

Step 2: Attach the pattern. Make several copies of the box pattern. To expedite the cutting process, stack-cut the lid base and bottom together. Attach the pattern to the stack and apply clear packaging tape to help lubricate the blade. Make sure all components of the box have the same grain direction as noted on the pattern. Make sure the table is square with the blade.

Step 3: Cut the pieces. Drill $\frac{1}{16}$ " (2mm)-diameter blade-entry holes and cut the insides of the box rings with a #7 reverse-tooth blade. Then, cut the perimeter of the box rings, bottom, and lid. Remove the patterns and separate the stacks using a putty knife. Rub the rings back and forth against a piece of 120-grit sandpaper attached to a flat surface to remove any fuzzies. Use mineral spirits to remove any adhesive residue and any remaining saw dust. Drill $\frac{1}{32}$ " (1mm)-diameter blade-entry holes and cut the frets of the lid with a #3 reverse-tooth blade. Take your time and be careful not to scorch the wood. Finally, cut the perimeter of the lid.

Step 4: Assemble the sides. Dry-assemble the rings and make any necessary adjustments. Apply a thin, uniform coat of wood glue to the top of one ring. Place the next ring in position and rub the two rings together until the glue gets tacky. Align the edges. Clamp the stack together for 5 minutes, and then release the clamps and remove any glue squeeze-out. Use slightly damp cotton swabs to remove the glue from the tight areas. Re-clamp the sides and allow the glue to dry. To increase the depth of the box, add more rings.

TIP

USING A BOWL PRESS

For this project, I use a bowl press, which is a system that uses pieces of wood, threaded rods, and wing nuts instead of clamps to hold the sides together while the glue sets. If you decide to make more boxes and want to make a press, you can find a variety of plans on the Internet.

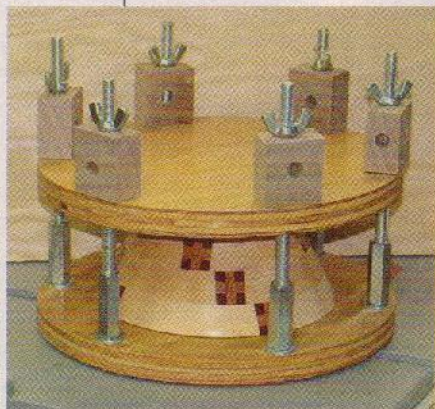
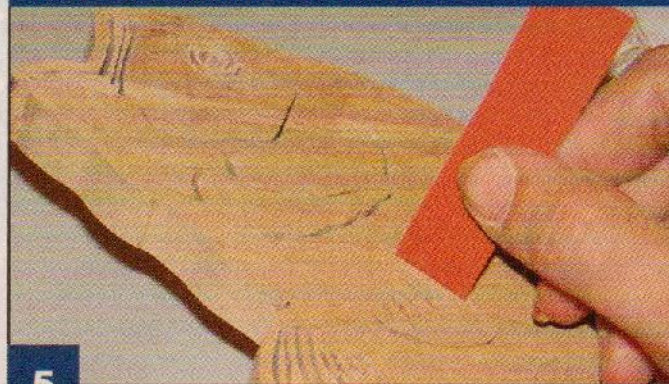


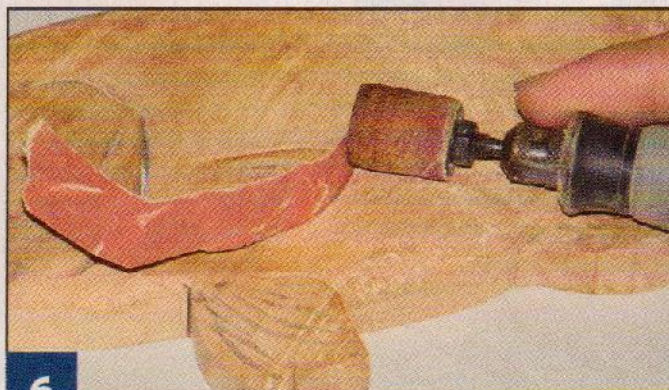
Photo courtesy of Carole Rothman

BASS BOX: SHAPING THE LID



5

Clean the frets. Hold the lid up to a light or a window and check for any remaining waste or fuzzies in the frets. Use a pick, awl, or narrow strips of sandpaper to remove the fuzzies or waste in the frets. Use strips of sandpaper to remove the visible edges of any blade-entry holes or blade marks.



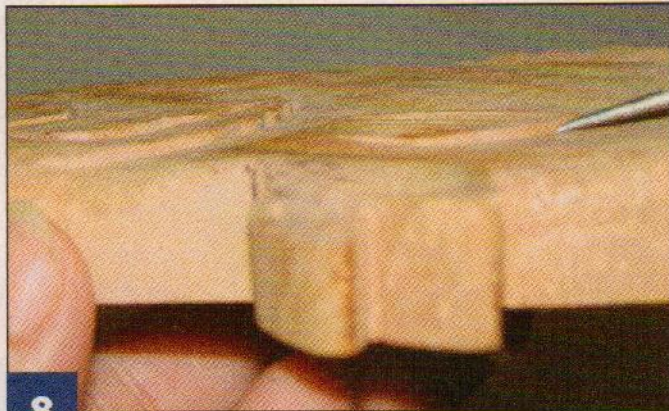
6

Protect the raised areas. I use assorted sanding drums in a rotary tool to add depth and motion to the lid. To protect areas you want to keep raised while shaping, insert small strips of sandpaper into the frets, and minimize contact with the raised areas. Use a lower rotary tool speed until you familiarize yourself with the wood and how it reacts to the sanding drum. A slow speed also minimizes burning. Keep a firm grip on the blank and keep the sanding drum parallel to the surface of the blank to keep from damaging the frets. *Note: See page 34 for more information on rotary tools.*

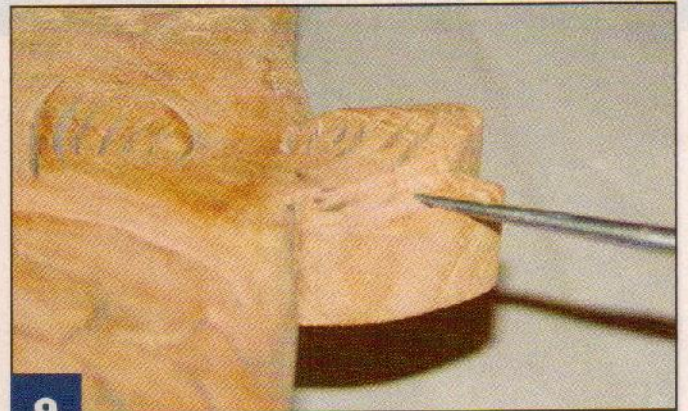


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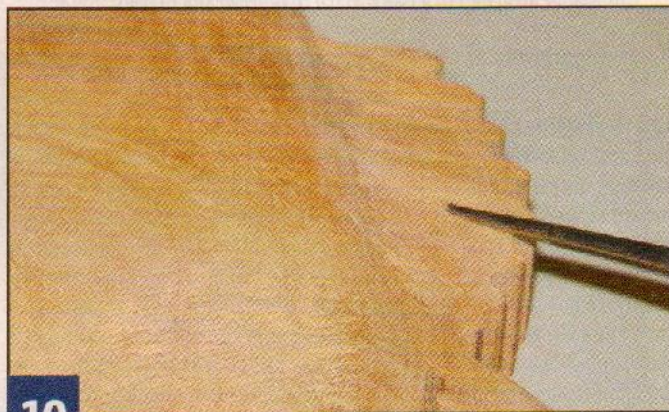
Shape the gill covers. Angle the tip of the sanding drum slightly so you create a bevel toward the outside edges of the frets on the gill cover. Make several shallow passes instead of trying to remove all of the wood in one pass. Repeat the process for each gill cover fret.

**8**

Shape the pectoral fins. Gradually bevel the wood around the outer fret of the pectoral fin. The deepest bevel should be around the outside of the outermost fret. Blend the depth toward the tail so there isn't a deep groove around the fin. This creates the appearance that the pectoral fin protrudes from the body and floats over the body.

**9**

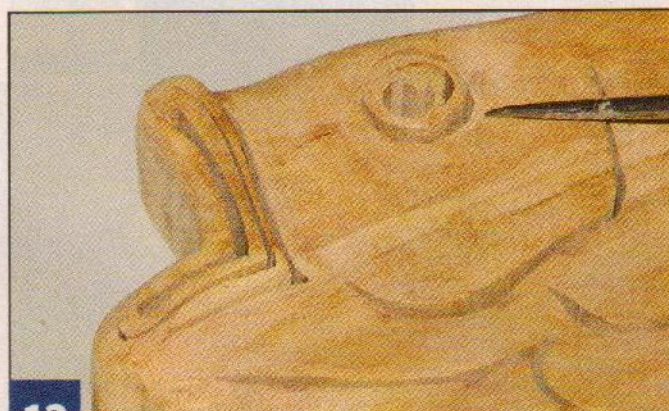
Shape the pelvic fins. One pelvic fin should look like it comes from the back side of the fish. Reduce the thickness of the back fin, removing wood from just the top of the fin. Taper the tips of this fin slightly.

**10**

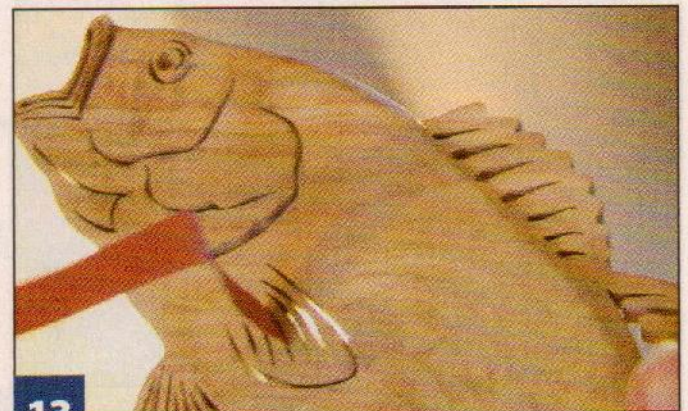
Shape the dorsal fins. Use the full length of a sanding drum to create a groove in the area on the body where the spiny and soft dorsal fins are located. Remove about $\frac{1}{4}$ " (6mm) of wood from the top of the dorsal fins. Round the groove into the general contour of the body. Repeat the process for the small anal fin.

**11**

Shape the tail. Carve a gradual $\frac{1}{4}$ " (6mm)-deep groove between the body and tail. Carefully shape the area to smooth the transition between the body and tail. Thin the tips of the tail slightly. Sand a slight taper onto the inside edge and at the point of the V-shaped area of the tail.

**12**

Shape the eye and mouth. Create a bevel around the outside edge of the outermost eye detail fret. Gradually sand the wood, working out toward the gills to create a smooth transition from the eye area to the gill area. Round the eye area slightly. Create a bevel on the outside of the fret around the outermost mouth detail fret. Slightly round both sides of the lips and the area around the top of the head.

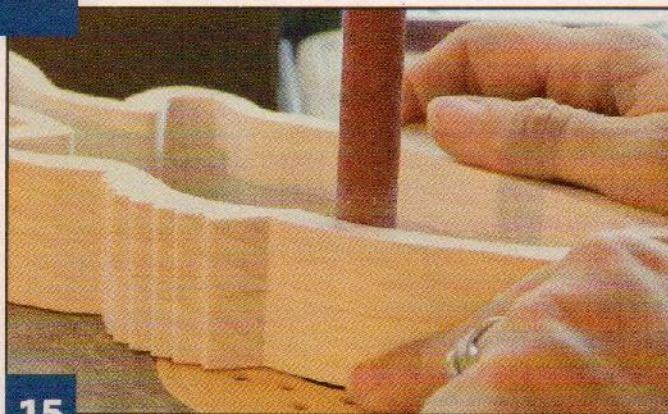
**13**

Round the outside of the body. Use a detail sander and progressive grits of sandpaper up to 220 grit to round the body and remove gouges and scratches. Refine the areas rounded with the sanding drums to create gradual, smooth transitions. Protect the raised areas with strips of sandpaper. Remove sanding dust with compressed air, a vacuum, or a clean, soft-bristled paintbrush. Hold the lid up to a light to check for sawdust in the frets and wipe the lid with mineral spirits to remove any remaining sawdust.



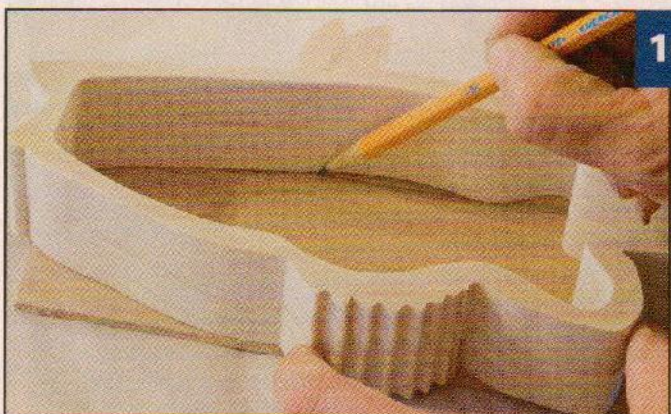
14

Attach the lid base. Apply a thin, uniform coat of wood glue to the bottom of the lid. Use less glue in the fretwork areas to prevent squeeze-out. Place the lid on the lid base and rub the pieces together until the glue gets tacky. Align the edges and use strips of packaging foam or clean rags in the uneven areas as you carefully clamp the stack for five minutes. Unclamp the box and remove squeeze-out in the fret areas using a pick, awl, or corsage pin. Reclamp and allow the glue to dry.



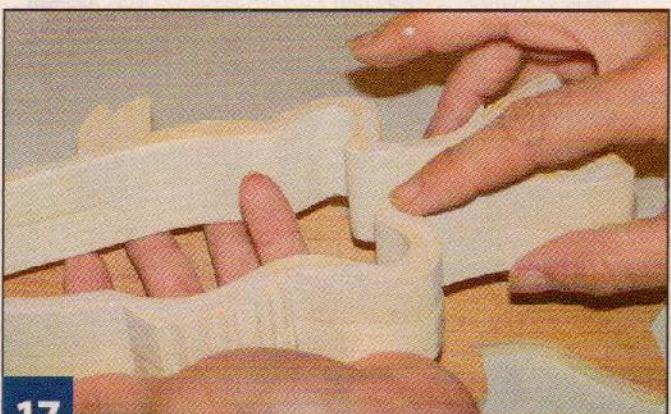
15

Sand the inside of the box. Use an oscillating spindle sander with a 1/2" (13mm)-diameter drum to sand the inside of the box. Use progressively finer grits of sandpaper until you remove any remaining marks from blade-entry holes and create a smooth finish. Wrap sandpaper around a dowel and hand-sand the inside of the tail. Rub the assembled rings back and forth against a piece of 120-grit sandpaper attached to a flat surface to remove any fuzzies.



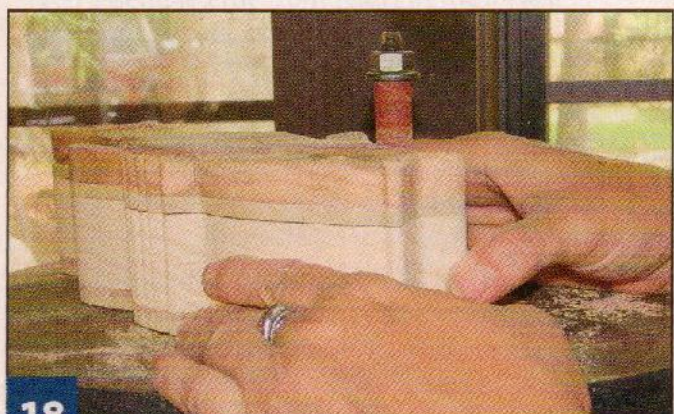
16

Add the lid liner. Place the lid liner blank face down on the bench. Place the box sides face down on top of the lid liner blank. Trace the inside of the box sides onto the lid liner. Cover the lid liner blank with packaging tape and cut around the perimeter. Test to see if the liner fits within the sides and make any necessary adjustments. Remove the tape and sand the lid liner with progressively finer sandpaper up to 220 grit. Place the lid upside down on the bench and apply white wood glue to the bottom of the lid liner. Place the lid liner in position on the lid and apply light pressure. Slide the box sides onto the lid to help position the liner properly. Remove the box sides and any glue squeeze-out. Clamp for five minutes, remove the clamps, remove any glue squeeze-out, reclamp, and allow the glue to dry. Use packaging foam as need to clamp the irregular surfaces.



17

Attach the bottom. Sand the bottom with progressive grits of sandpaper up to 220 grit. Do not round the edges. Remove any sanding dust and apply wood glue to the bottom of the box sides. Clamp the bottom in position for five minutes. Remove the clamps and any glue squeeze out, and reclamp until the glue dries. For a bottom with multiple layers of wood, glue the layers together with a uniform coat of wood glue. Rub the layers together until the glue gets tacky. Then, align the profiles, clamp together, and allow the glue to dry.



18

Sand the box. Secure the lid to the box sides with double-sided tape. Sand the outside of the lid and box to remove blade marks and glue residue. Use progressive grits of sandpaper up to 220 grit. Initially, I use varying drum diameters in an oscillating spindle sander. Wrap sandpaper around a pencil or dowel to sand the tightest areas. Finish-sand the box using 400-grit sandpaper in a detail sander and by hand. Round the lid edges and the bottom of the box slightly.



19

Finish the box. Pry the lid off with a clean putty knife and remove all of the dust with compressed air, a vacuum, or a clean, soft-bristle paintbrush. Wipe the box with mineral spirits to remove any glue residue or remaining dust. Apply several thin coats of shellac. Rub the box with a brown paper bag or 0000 steel wool between coats. To prevent puddles or drips in the shellac, apply the thin coats from all directions so the insides of the frets are coated evenly. When the shellac is dry, apply several thin coats of semi-gloss lacquer.



Adding Flocking to the Inside

For a more finished look, I apply royal blue flocking to the inside of the box. Flocking supplies are available on the Internet. I have found that matching acrylic base paints are less expensive at local discount and hobby stores. I follow most of the manufacturer's instructions to apply the flock, but I modify the process slightly. Instead of applying one coat of the matching base acrylic paint, I apply two coats, especially when using darker wood. Allow the first coat to dry completely before applying the second coat. For the second coat, mix two parts paint with one part white wood glue. Apply the mixture over the first coat of paint and immediately apply the flocking. This seems to help the fibers bond better.

Patterns for the **LARGE-MOUTH BASS BOX** are in the pattern pullout.

BONUS PATTERNS for a **BLUE GILL FISH BOX** are also in the pullout section.



L. Kim Braa grew up in the Midwest and moved to the Gulf Coast region over 13 years ago. To see more of Kim's work, visit her website at www.gonecoastalart.com. You can contact her at lkimbrea@att.net.

Materials & Tools

Materials:

- Maple, $\frac{3}{4}$ " (19mm)-thick: lid, 5" x 10 $\frac{1}{2}$ " (127mm x 267mm)
- Poplar, $\frac{3}{4}$ " (19mm)-thick: box sides, 2 each 5" x 10 $\frac{1}{2}$ " (127mm x 267mm)
- Poplar, $\frac{1}{4}$ " (6mm)-thick: lid base, box bottom, 2 each 5" x 10 $\frac{1}{2}$ " (127mm x 267mm)
- Mahogany, $\frac{1}{8}$ " (3mm)-thick: box bottom accent, 5" x 10 $\frac{1}{2}$ " (127mm x 267mm)
- Oak, $\frac{1}{8}$ " (3mm)-thick: lid liner, 5" x 10 $\frac{1}{2}$ " (127mm x 267mm)
- Repositionable spray adhesive
- Tape: lightweight clear packaging; double-sided plastic carpet
- White wood glue
- Sandpaper: assorted grits from 120 to 400
- Sanding pads for detail sander: assorted grits from 120 to 400
- Sanding sleeves for oscillating spindle sander, assorted sizes $\frac{1}{2}$ " (13mm) to $\frac{3}{4}$ " (19mm): assorted grits from 80 to 220
- Sanding sleeves, for rotary tool sanding drums: assorted sizes $\frac{1}{4}$ " (6mm) to $\frac{3}{4}$ " (19mm), assorted grits from 80 to 220

- Mineral spirits
- Paper towel or lint-free cloth
- Foam packaging material or soft, clean, lint-free rags
- Brown paper bag or 0000 steel wool
- Shellac
- Finish: semi-gloss spray lacquer
- Flocking materials (optional)

Tools:

- Drill with assorted small bits
- Scroll saw blades, such as Flying Dutchman Ultra Reverse: #3 and #7 reverse-tooth
- Oscillating spindle sander and drums
- Detail sander
- Rotary tool and sanding drums
- Clamps or bowl press (see TIP)
- Pencil
- Putty knife
- Awl, pick, or corsage pin

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

Power Carving BASICS

Add texture to your projects with an inexpensive rotary tool

By Bob Duncan

With a simple rotary tool, like a Dremel, and some basic bits, you can add details, dimension, and shaping to your scrolled projects. In this issue, the log book (page 24) and the large-mouth bass box (page 29) are cut on the scroll saw and detailed with a rotary tool.

Inexpensive rotary tools and bits are available at most hardware and home improvement stores. There are many bits to choose from, but I suggest starting with just four. Once you learn the basics of power carving, you can experiment with different bits to get different effects.

Choosing a Rotary Tool

Rotary tools range from low torque, high speed tools, to powerful motors hooked to flexible shafts, to high-speed grinders that are similar to dental drills. A low-torque tool, like a Dremel, and basic bits cost less than \$100 and can be found in home-improvement stores. The more powerful machines cost \$150 and up for just the tool and are usually only available at woodworking stores or by mail/online order.

Cordless and corded tools are available. I think the corded tools are easier to maneuver because they tend to be smaller (the battery pack adds length to cordless tools), but you do need to deal with the cord.

Any tool you buy will work. The more powerful the tool, the more expensive it is. For basic shaping (such as the work on the log book), you don't need a lot of power or torque. To rough out intarsia pieces in a reasonable amount of time, however, you need a more powerful tool.

Once you get the feel for power carving, you may decide to upgrade your equipment. But if you're a scroller at heart and just want to add some texture and shaping to your pieces, you don't need expensive tools.



Choosing Bits

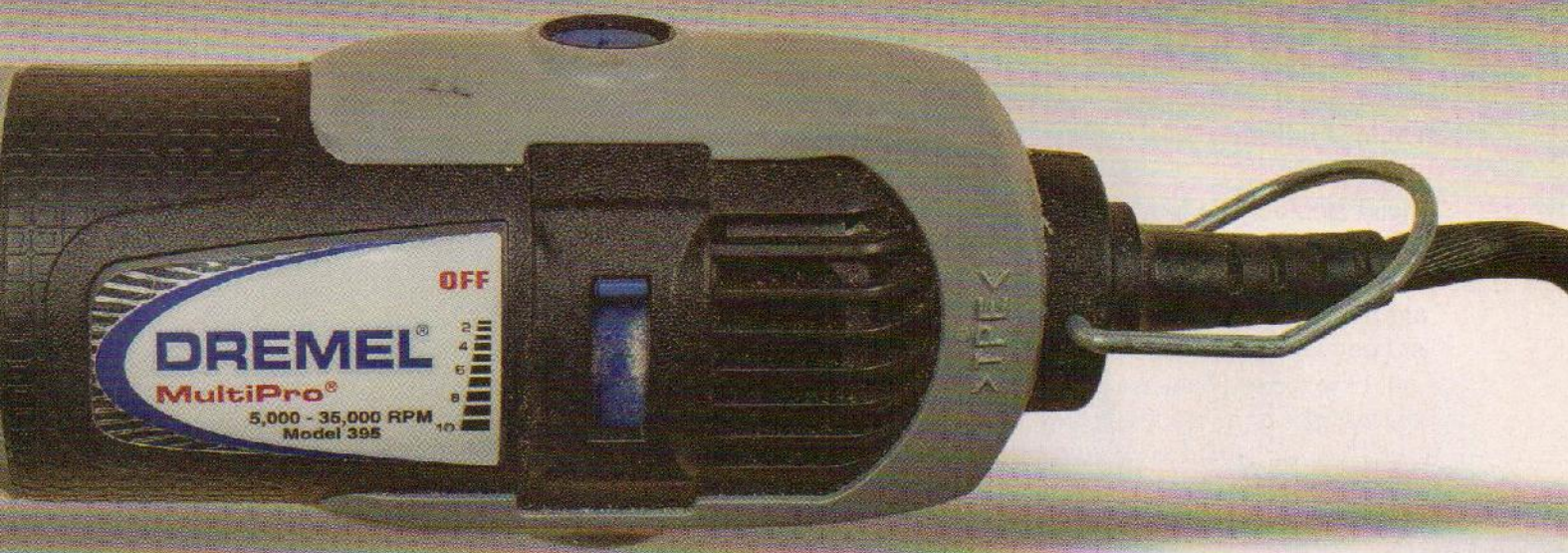
I suggest that beginners buy four bits: sanding drums in two sizes and cone-shaped and flame-shaped high-speed steel cutters. You can carve and shape most projects with just these bits.

Sanding Drums: Sanding drums are the workhorses for beginning carvers. You can choose the speed of the wood removal based on the grit of the sanding band. Choose a coarse-grit drum for fast wood removal and a finer-grit band for slower wood removal and a smoother surface. The ½" (13mm)-diameter drum is good for most work, but you may need to switch to a ¼" (6mm)-diameter drum for small areas. Use the corner of the drum to get into tight crevices and the middle of the drum for open areas.

High-Speed Steel Cutters: High-speed steel cutters actually cut (carve) rather than sand. They can be more difficult to control than sanders, but they allow you to carve textures and fit into the tightest spots.

The cone-shaped bit has the sharpest point and fits into the tightest areas but, due to the shape of the cone, it doesn't carve curved shapes into flat surfaces well. The flame-shaped bit has a point that fits into most areas, but also has rounded sides that allow you to carve curved shapes into flat surfaces.

As these bits get dull, they start to burn the wood. The bits are inexpensive enough that you can buy both and then replace them rather than attempt to sharpen



them. With heavy use, the bits usually last a month, but their longevity depends on how you use them and the density of the wood you're carving.

Power Carving Techniques

It is simple to get started with power carving. Low-torque tools depend on the speed of the tool to do the work, so it's best to use a light touch. Press the tool to the wood lightly but firmly, and then lift it off when you hear the motor slow down. As you use the tool, you'll get a feel for how hard to press and when to lift.

I generally hold my power-carving projects while I work. If the piece I'm shaping is small, I use double-sided tape to attach it to a larger piece of scrap to make it easier to hold. Use caution when carving because the tool can hit an area where the wood density changes abruptly, causing the tool to skip toward your holding hand. You won't get a serious injury if the tool brushes a knuckle, but it will sting. If you prefer, clamp the project and use both hands on the tool, which makes it impossible to hit your fingers with a bit.

Most of the basic tools available today are variable speed, but I seldom turn the speed down below the half-way mark. To remove wood quickly, use a high speed. As you begin to carve the details, slow the tool slightly to give yourself better control.

Unlike carving with edged tools, the grain direction really doesn't matter in power carving. I've had a high-speed bit tear out a little when I went against the grain, but I've never had a problem with

a sanding drum. You can sand across the grain, but I usually try to sand with the grain to speed up finishing later. Cross-grain scratches show up when you apply a finish.

Finally, remember that power carving makes saw dust just like scrolling does. Use a dust collector and wear a mask while you work.

Although many bits are available, flame- and cone-shaped high-speed steel cutters and two sizes of sanding drums will give you the capabilities to get started.



Creating Wooden Flowers



Simple cuts turn scrap wood into a beautiful bouquet

By Enzo Santomarcò

Over my years of scrolling, I've accumulated many thin scraps of hardwood that I couldn't bear to throw away. I was trying to figure out a way to use these pieces when I realized I could cut flower petals.

I've included a simple pattern for one flower petal, but you can see that a slight change in size or shape produces an entirely new look.



Enzo Santomarcò is a firefighter in Talsano, Italy. He can be reached at enzo.santomarcò@virgilio.it.

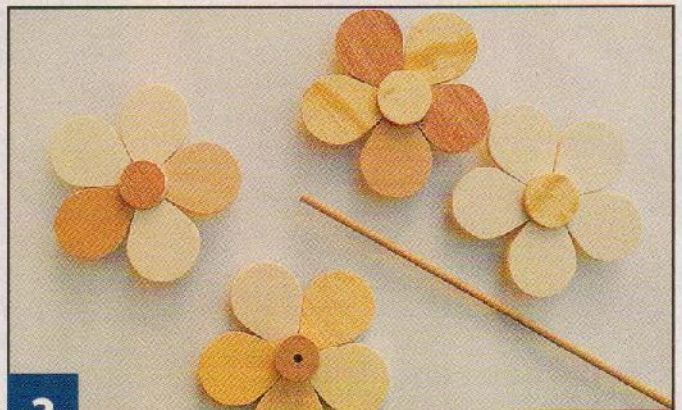


FLOWERS: MAKING THE FLOWERS



1

Cut the pieces. Make multiple copies of the petal pattern. Transfer the petal and disc patterns to the blanks and use a #2 blade to cut one disc and five petals. Cut a $\frac{3}{8}$ " (10mm)-diameter by $\frac{3}{8}$ " (10mm)-long section of dowel for the bottom of the flower, and drill a $\frac{1}{8}$ " (3mm)-diameter hole through the center. Cut a $\frac{1}{8}$ " (3mm)-diameter by 8" (203mm)-long dowel for the stem.



2

Assemble the flowers. Sand the pieces with 220-grit sandpaper. Glue and clamp, or use cyanoacrylate (CA) glue, such as Super Glue, to attach the bases of the petals to the center disc. Then, glue the flower bottom to the back of the petals. Glue the dowel stem into the hole in the flower back. Apply a clear spray finish.

Materials:

- Hardwood, $\frac{1}{8}$ " (3mm) to $\frac{1}{4}$ " (6mm)-thick: assorted scraps
- Dowel, $\frac{3}{8}$ " (10mm)-diameter: $\frac{3}{8}$ " (10mm)-long (per flower)
- Dowel, $\frac{1}{8}$ " (3mm)-diameter: 8" (203mm)-long (per flower)
- Sandpaper: assorted up to 220 grit
- Glue: wood or cyanoacrylate (CA) glue
- Spray finish: clear

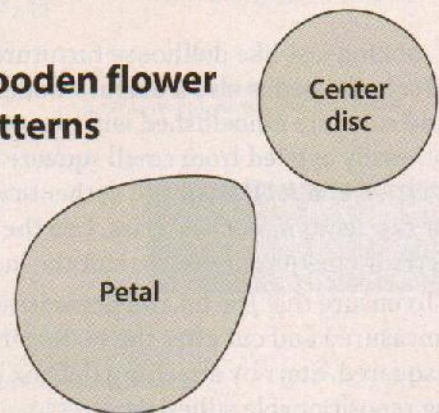
Materials & Tools

Tools:

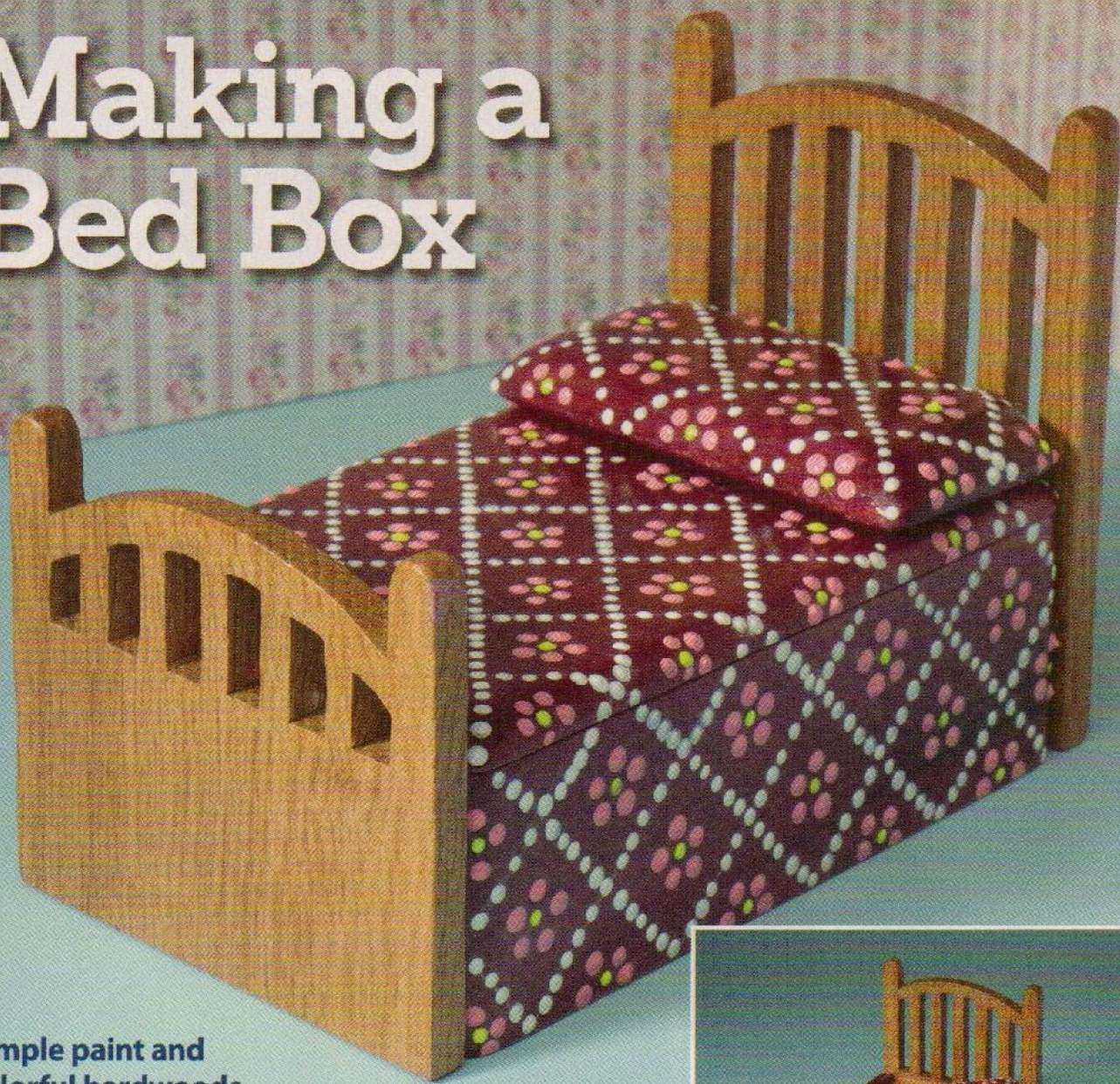
- Blades: #2 reverse-tooth
- Drill and bits: $\frac{1}{8}$ " (3mm)-diameter twist bits
- Clamps (optional)

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

Wooden flower patterns



Making a Bed Box



Simple paint and colorful hardwoods assure the corners are crisp and covers smooth on this clever box

By Carole Rothman

Looking just like dollhouse furniture, this attractive, colorful bed is also a useful wooden box. The purpleheart lid and sides are embellished with dots of contrasting fabric paint, easily applied from small squeeze bottles. The white oak headboard and footboard add authenticity, and the mahogany inner box lends a touch of class. Use the suggested geometric pattern or create your own to suit the lucky recipient.

To ensure that the lid and decorative sides fit properly, they are measured and cut after the mahogany box has been sanded and squared. Start by attaching the box pattern to the box body using repositionable adhesive.



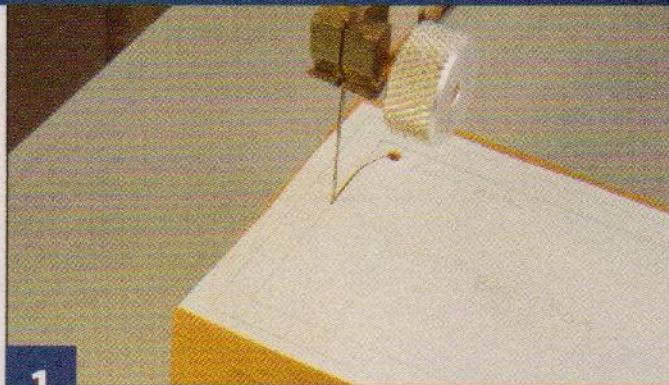
Girls will delight in the box bed's dainty design and hidden compartment.

TIP

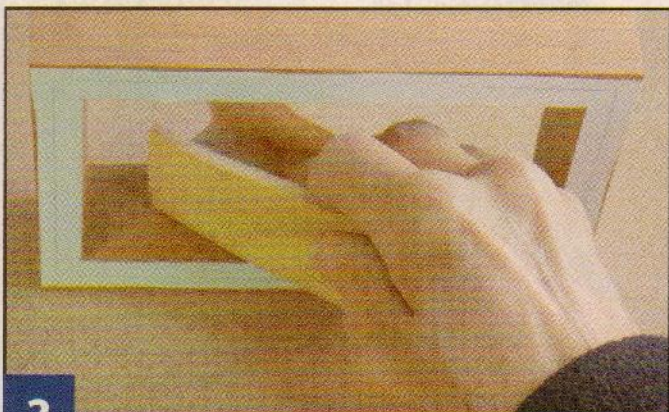
CUTTING CORNERS

To cut neat corners in thick wood, cut into the corner, and then back the blade up and cut a curve to the next side. Complete the corner cuts after you remove the center piece.

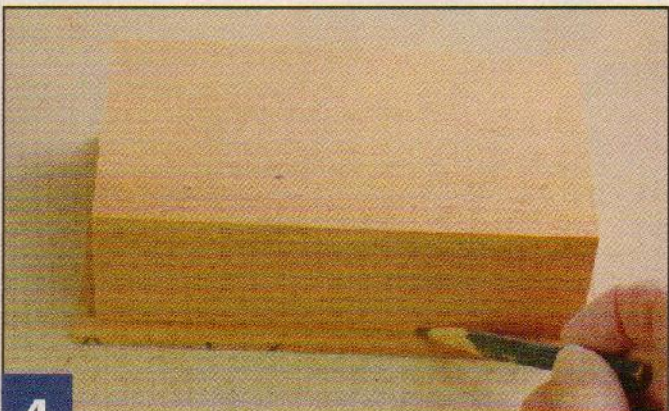
BED BOX: MAKING THE BOX



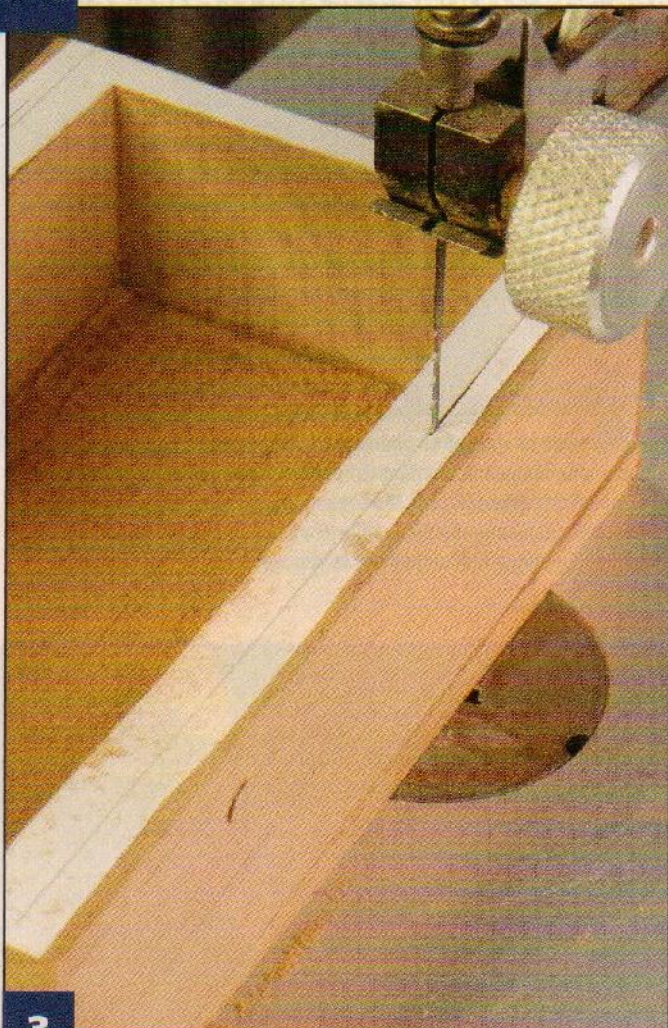
- 1** **Cut the box interior.** Drill a blade-entry hole where indicated on the pattern. Insert a blade through the hole and cut the inside of the box. Do not remove the pattern yet.



- 2** **Add the base.** Sand the inside of the box smooth. Glue the box body to the bottom blank and clamp securely. Allow the glue to dry for 5 minutes and remove the clamps. Clean up any glue squeeze-out on the inside of the box and then reclamp the pieces and allow the glue to dry.

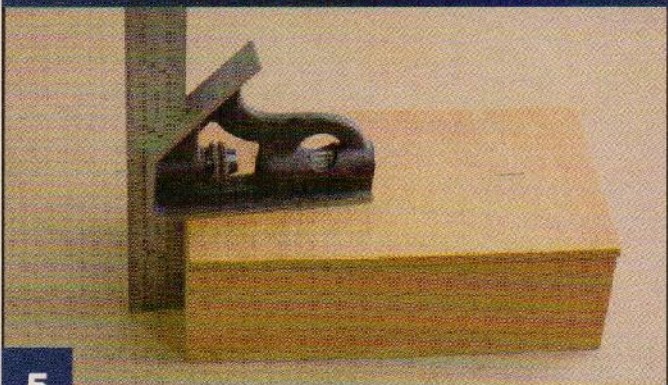


- 4** **Cut the lid liner.** Invert the box on the lid liner blank and trace around the outside of the box to mark the cutting line. Unlike most lid liners, this one covers the top of the box. The headboard, footboard, and decorative sides hold the lid liner in place. Cut along the traced line to create the lid liner.



- 3** **Complete the box body.** Cut along the perimeter of the box body and the bottom. Remove the pattern and sand the sides smooth. Use a small engineer's square or combination square to make sure the sides are vertical and at right angles to each other. If the sides are not square, the headboard, footboard, and decorative sides will not fit properly.

BED BOX: MAKING THE BED ELEMENTS



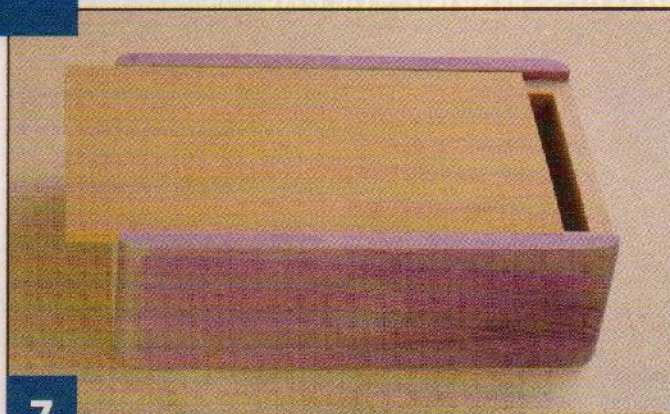
- 5** **Cut the decorative sides.** Place the lid liner on top of the box and measure the distance from the top of the lid liner to the bottom of the box. Then, measure the length of the box. Transfer these measurements to the decorative sides blanks and cut the decorative sides to size.

BED BOX: MAKING THE BED ELEMENTS



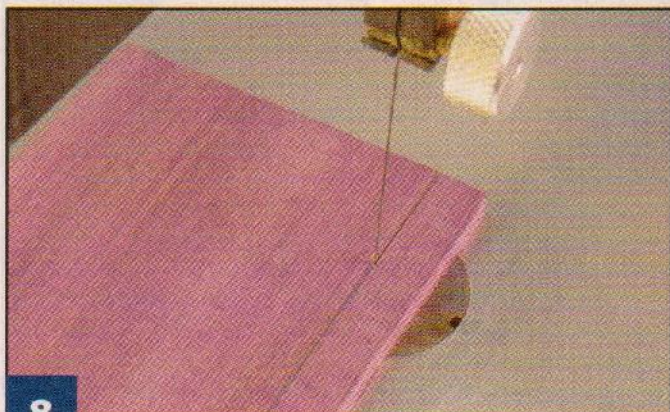
6

Glue the sides to the box. Glue one decorative side to one side of the box, keeping the bottom and ends aligned. Clamp and let the glue dry. Glue the second side in place using the same technique. Gluing the pieces one at a time helps prevent the pieces from slipping out of alignment as you apply clamping pressure.



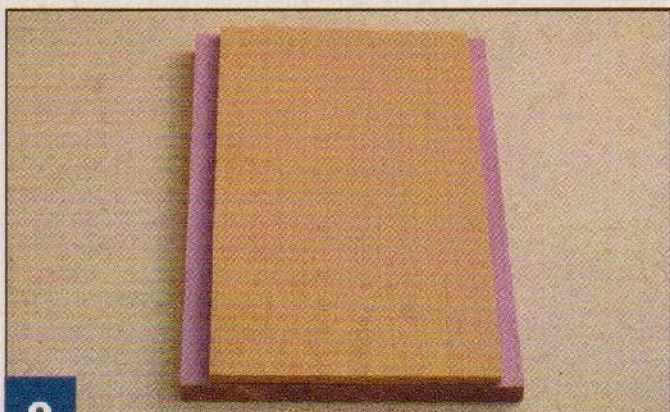
7

Adjust the fit of the lid liner. Soften the ends of the side pieces with sandpaper. Then, position the lid liner on top of the box and sand the sides of the liner, if needed, until it just fits into the channel created by the two decorative sides.



8

Cut the box lid. Measure the width from the outside edge of one decorative side to the outside edge of the other decorative side. Mark this on the lid blank. Then, mark the length of the box, which you determined in Step 5, onto the blank and cut the lid to size.



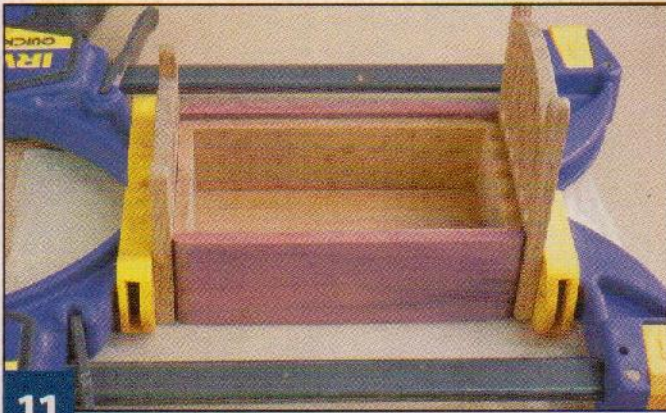
9

Attach the lid liner to the lid. Place the lid liner on the underside of the lid. Invert the box on the lid to position the lid liner correctly. Mark the position of the liner, lift it up, and apply glue to the back side of the liner. Reposition it within your marks and clamp it in place until the glue dries. Round the upper edges of the lid to give it a soft look.

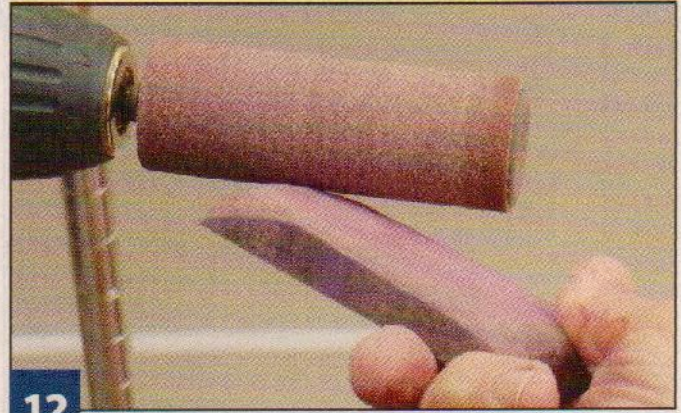


10

Cut the headboard and footboard. Attach the patterns to the blanks with repositionable adhesive. Drill blade-entry holes and cut the frets. Then, cut around the perimeter of the pieces. Using sandpaper, a sanding mop, or a Mac Mop sander, sand the headboard and footboard to soften the edges.



11 **Attach the headboard and footboard.** Apply glue to the inside edges of the headboard and footboard. Make sure they are vertical, centered, and aligned with the bottom edge of the box, and then clamp them in place until the glue dries.

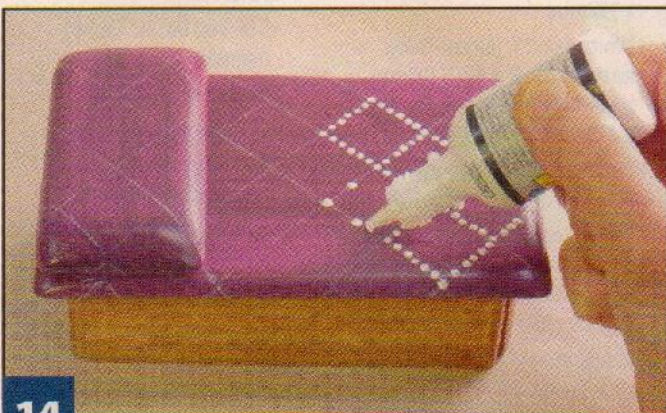


12 **Make the pillow.** The length of the pillow is equal to the width of the bed. It's cut from 1/2" (13mm)-thick stock, and it should be about 1-3/4" (44mm) wide. Sand the pillow on all edges to create a realistic rounded shape. Place the lid on the box, and glue the pillow in position centered on the lid, almost but not touching the headboard.

BED BOX: EMBELLISHING THE BOX

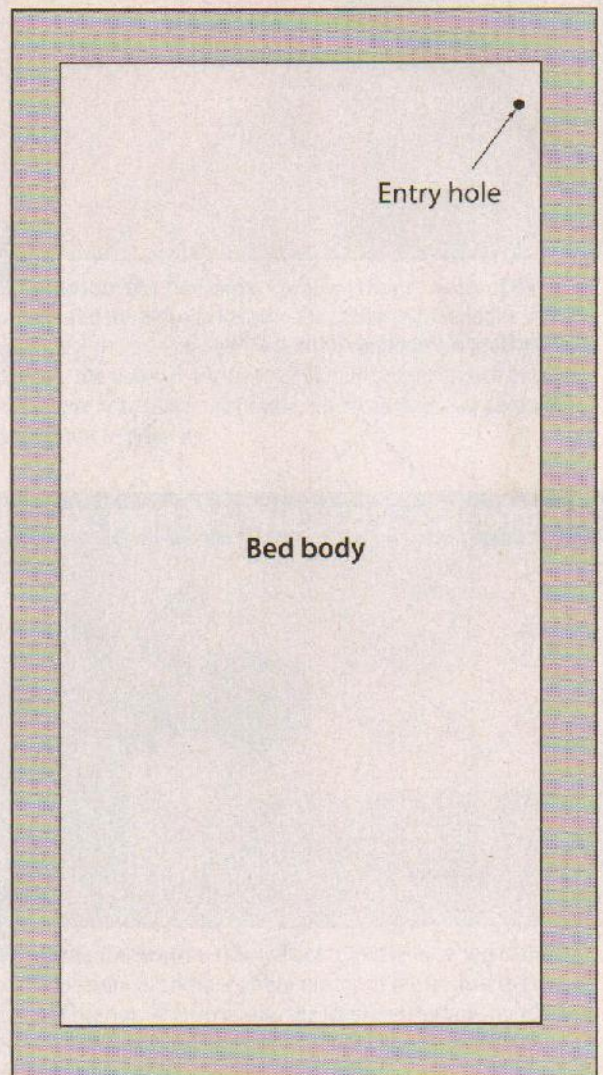


13 **Prepare to paint the box.** Sand the box with 320-grit sandpaper and apply several coats of clear spray lacquer. Allow the box to dry and buff it with 0000 steel wool. Use a white pencil and a small ruler to draw guidelines on the lid and sides of the box.

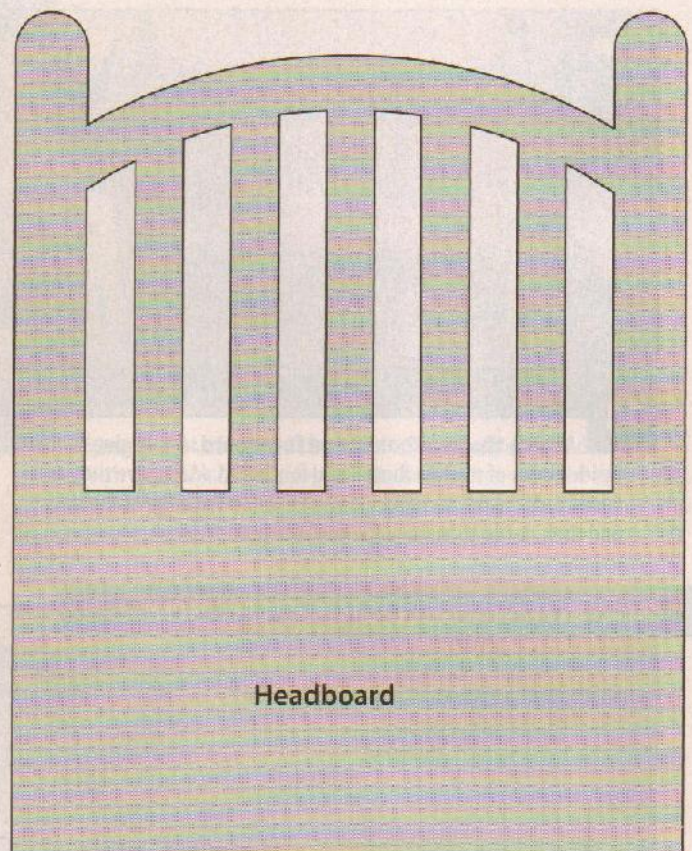
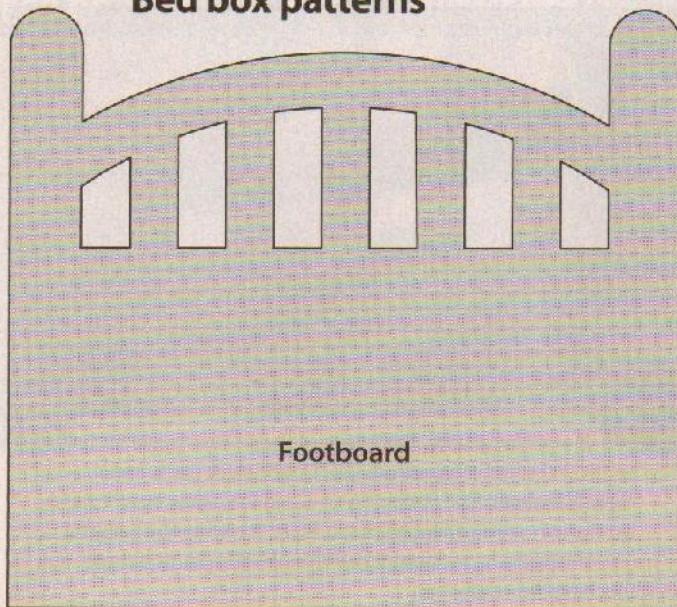


14 **Apply the paint embellishments.** Shake the bottles of paint well and tap the ends to remove air bubbles. Experiment with each color on scrap wood to determine the pressure needed to apply evenly sized dots. Then, apply dots to the box, following the guidelines. If you need to remove a dot, you can use a small, damp paintbrush while the paint is wet. Clean up the residue with a moistened cotton swab. However, it may be safer to wait until the paint has dried, and then use a hobby knife to remove the problematic material. To protect the paint, let it dry for several days, and then give the box several light coats of spray lacquer.

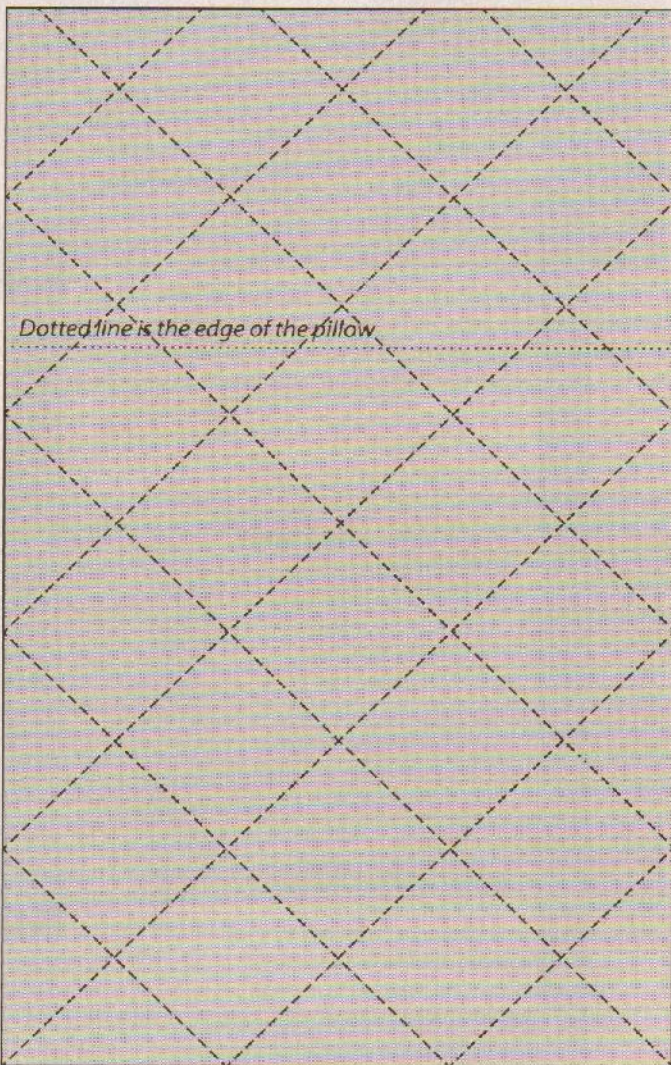
Bed box pattern



Bed box patterns



Bed box paint guide



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Materials:

- Mahogany, $1\frac{3}{8}$ " (35mm)-thick: box body, $3\frac{1}{2}$ " x 6" (89mm x 152mm)
- Mahogany, $\frac{1}{4}$ " (6mm)-thick: box bottom, $3\frac{1}{2}$ " x 6" (89mm x 152mm)
- Hardwood of choice, $\frac{1}{8}$ " (3mm)-thick: lid liner, $3\frac{1}{2}$ " x 6" (89mm x 152mm)
- White oak, $\frac{1}{4}$ " (6mm)-thick: headboard, 4" x $4\frac{1}{2}$ " (102mm x 114mm); footboard, $3\frac{1}{2}$ " long x 4" wide (89mm x 102mm)
- Purpleheart, $\frac{1}{2}$ " (13mm)-thick: pillow, 2" x 4" (51mm x 102mm)
- Purpleheart, $\frac{1}{4}$ " (6mm)-thick: lid, 4" x 6" (102mm x 152mm); decorative sides, 2 each, 2" x 6" (51mm x 152mm)
- Repositionable adhesive
- Wood glue
- Sandpaper

Materials & Tools

- Spray lacquer
- Steel wool: 0000
- Fabric paint in small squeeze bottles

Tools:

- Drill and bit: $\frac{1}{8}$ " (3mm)-diameter
- Blades: #9 or #12, #3
- Clamps or bowl press
- Sanding mop or Mac Mop (optional)
- Sanders
- Small ruler
- Square
- White pencil

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



Carole Rothman of Somers, N.Y., is a retired psychologist and college professor. She is also an award-winning cake decorator. Visit Carole online at scrollsawbowis.blogspot.com. You'll find her books *Creative Wooden Boxes* from the *Scroll Saw and Wooden Bowls* from the *Scroll Saw* at www.foxchapelublishing.com.

Jesus on the Cross

Poignant fretwork design is a seasonal reminder of sacrifice

By John A. Nelson
Cut by Leldon Maxcy



Capture the strong feelings of the Easter season with a simple silhouette design that can be cut in an afternoon.

To cut the piece from plywood or hardwood, use a #1 or #3 blade. For a different look, stack sheets of black cardstock between two pieces of thin plywood (see page 78 for several methods of stacking). Attach the pattern to the top sheet of plywood and drill blade-entry holes as required. Cut the frets with a #5 skip-tooth blade. Use a slower cutting speed to keep from heating the blade and scorching the paper.

Glue the cardstock cutouts onto white paper and present them to friends and family as a seasonal gift.

Materials:

- Baltic birch plywood or hardwood, 1/8" (3mm) to 1/4" (6mm)-thick; backing board and fretwork, 2 each 8" x 10" (203mm x 254mm)
- Paper or cardstock (optional): black and white, 8" x 10" (203mm x 254mm)
- Sandpaper
- Spray adhesive

Materials & Tools

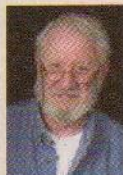
- Spray finish: clear

Tools:

- Blades: #1 or #3 reverse-tooth, #5 skip-tooth
- Drill with assorted small bits

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

Pattern for *JESUS ON THE CROSS* is in the pattern pullout section.



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

Blooming Iris Intarsia

Careful wood selection and shaping combine to create this realistic flower

By Judy Gale Roberts

I love the way irises pop up every spring. They take no work on my part, but they brighten up my garden. I decided to capture that feeling in an intarsia design.

To begin the project, gather reference material, such as photos of irises. They will help you determine which petals and leaves are closer to the background (and the frame) and which pieces are closer to the viewer. Attach the patterns to the wood, paying attention to the grain, and cut the pieces. Mark the backs and place the cut pieces on a copy of the pattern. Use a pencil to mark suggested sanding depths on the sides of the pieces.



Shaping the pieces

Study the project and refer to your reference material while you form a rough plan to sand and shape the pieces. Start by shaping the background pieces. Use a pencil to mark the thicknesses of the background pieces onto the adjoining parts. The pencil mark is your guide to keep you from sanding off too much wood. Always stay above the pencil lines.

Leaf 14 must be thinner than petal 18. Leaf 12 should be thicker than leaf 14. Sand stems 15, 16, and 17 down to at least $\frac{3}{8}$ " (10mm) thick and round the outside edges slightly. Sand the parts of leaf 13 that tuck under leaf 35 down to at least $\frac{3}{8}$ " (10mm). Then, sand and shape leaf parts 35, 21, and 23. These parts make up one leaf. The section approaching the bottom of the design will be thicker and the upper sections will be thinner so they appear to sit behind the flower. Sand leaf parts 21 and 23 down to about $\frac{1}{4}$ " (6mm) thick and mark the area where they join petals 20 and 22. Taper leaf part 35 down to about $\frac{3}{8}$ " (10mm) where it joins petal 20. The lower portion of leaf part 35 tucks in behind leaf 13, so taper the lower section down slightly. Then, sand leaf parts 10 and 11, but keep the tip of part 10 thicker than the $\frac{1}{2}$ " (13mm)-thick frames; this part appears to be in front of the frame.

Sand petal 27 to about $\frac{1}{2}$ " (13mm) thick, and then taper it to $\frac{3}{4}$ " (6mm) where it meets the other petals. The other petals taper toward the center. Use the same process to shape petals 31 and 28. Keep petal 26 thicker than the surrounding petals. When you sand petals 25 and 22, keep them thicker than the surrounding leaves. Round the thin portions of petals 18, 19, and 20 toward the center of the flower. Round the upper parts of these petals to about $\frac{1}{2}$ " (13mm) where they join the smaller petals. Round the lower outside edges of these petals slightly to give it a softer look, but keep these parts thicker than the leaves. Sand petal 24, but keep it thicker than the two larger petals you just sanded. Taper petal 24 slightly toward petal 19. Petal 30 is the underside of the petal. I sand petal 29 first, tapering it toward the center as much as possible without sanding below any pencil lines. Mark where it joins petal 30. Taper the lower point of petal 30 to the same thickness as petal 29. The very upper tip of petal 30 will be the thickest part. Sand the pieces with progressively finer sanding drums up to 220 grit.

Finishing the project

Apply a heavy coat of gel polyurethane finish to the top and sides of each piece. Avoid getting finish on

the backs of the pieces. Allow the gel to soak in for less than a minute and then wipe off the excess with a paper towel. Use paper towels folded into quarters to buff the part dry. Do not leave any residue on the wood. I go through many paper towels. If you overuse a paper towel, it will start to leave some lint behind in the finish.

To keep the project light and airy looking, I cut away the tempered hardboard backing board between the leaves and petals. To make a pattern for the backing board, apply a light coat of spray adhesive to a piece of paper and dry-assemble the project on the paper. Trace around the assembled project onto the paper. Remove the project and use spray adhesive to attach the pattern to the backer blank. Cut $\frac{1}{16}$ " (2mm) inside the traced line. Assemble the project on the backing board and glue the pieces to the board.

Materials & Tools

Materials:

- Medium-dark wood, such as Western red cedar, mahogany, or cherry, $\frac{1}{2}$ " (13mm)-thick: frame, 6" x 16" (152mm x 406mm)
- Medium-dark wood, such as Western red cedar, mahogany, or cherry, $\frac{3}{4}$ " (19mm)-thick: leaves, 2" x 4" (51mm x 102mm)
- Medium-tone wood, such as Western red cedar, pecan, or red oak, $\frac{3}{4}$ " (19mm)-thick: 6" x 17" (152mm x 432mm)
- Light wood, such as Western red cedar, maple, or birch, $\frac{3}{4}$ " (19mm)-thick: 6" x 17" (152mm x 432mm)
- Colorful or white wood, such as yellowheart, aspen, white pine, holly, purpleheart, redheart, $\frac{3}{4}$ " (19mm)-thick: iris petals, 6" x 6" (152mm x 152mm)
- Tempered hardboard, $\frac{3}{8}$ " (3mm)-thick: 7" x 16" (178mm x 406mm)
- Pencil
- Glue: wood; glue stick or spray adhesive
- Paper towels

Tools:

- Blades: #5 skip-tooth (large parts), #3 skip-tooth (petals), #2/0 (separate pieces such as parts 15, 16, 17)
- Sanders, such as drum sander

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

The pattern for the
BLOOMING IRIS INTARSIA is
in the pullout section.

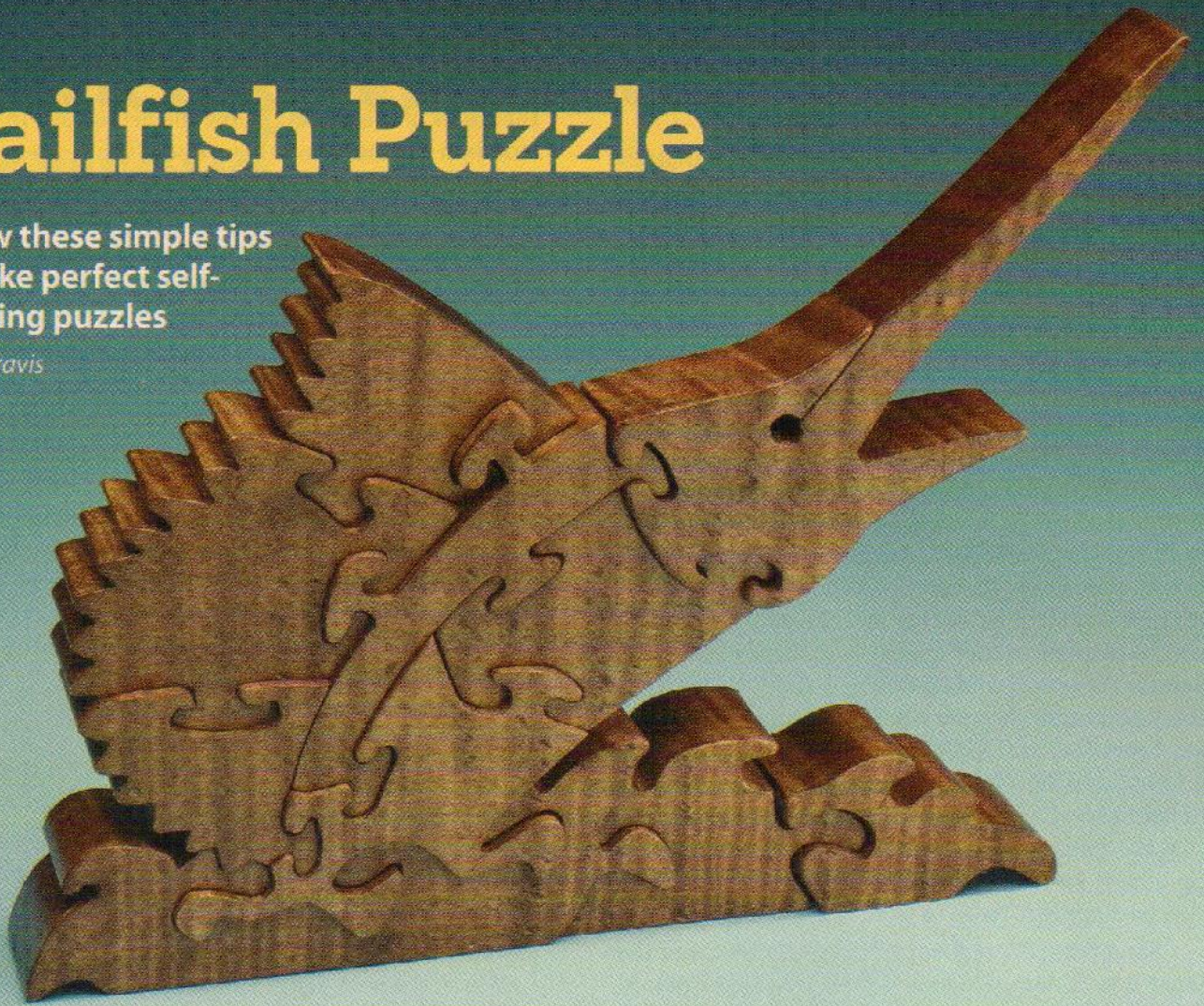


Judy Gale Roberts, born in Houston, Tex., has long been recognized as the leading authority on intarsia. Judy was one of the first ten people to be inducted into the Woodworking Hall of Fame. For more of her work or information on classes held at her home studio in Seymour, Tenn., contact Judy at 800-316-9010, or visit www.intarsia.com. Judy's numerous intarsia books are available at www.FoxChapelPublishing.com.

Sailfish Puzzle

Follow these simple tips to make perfect self-standing puzzles

By Kip Travis

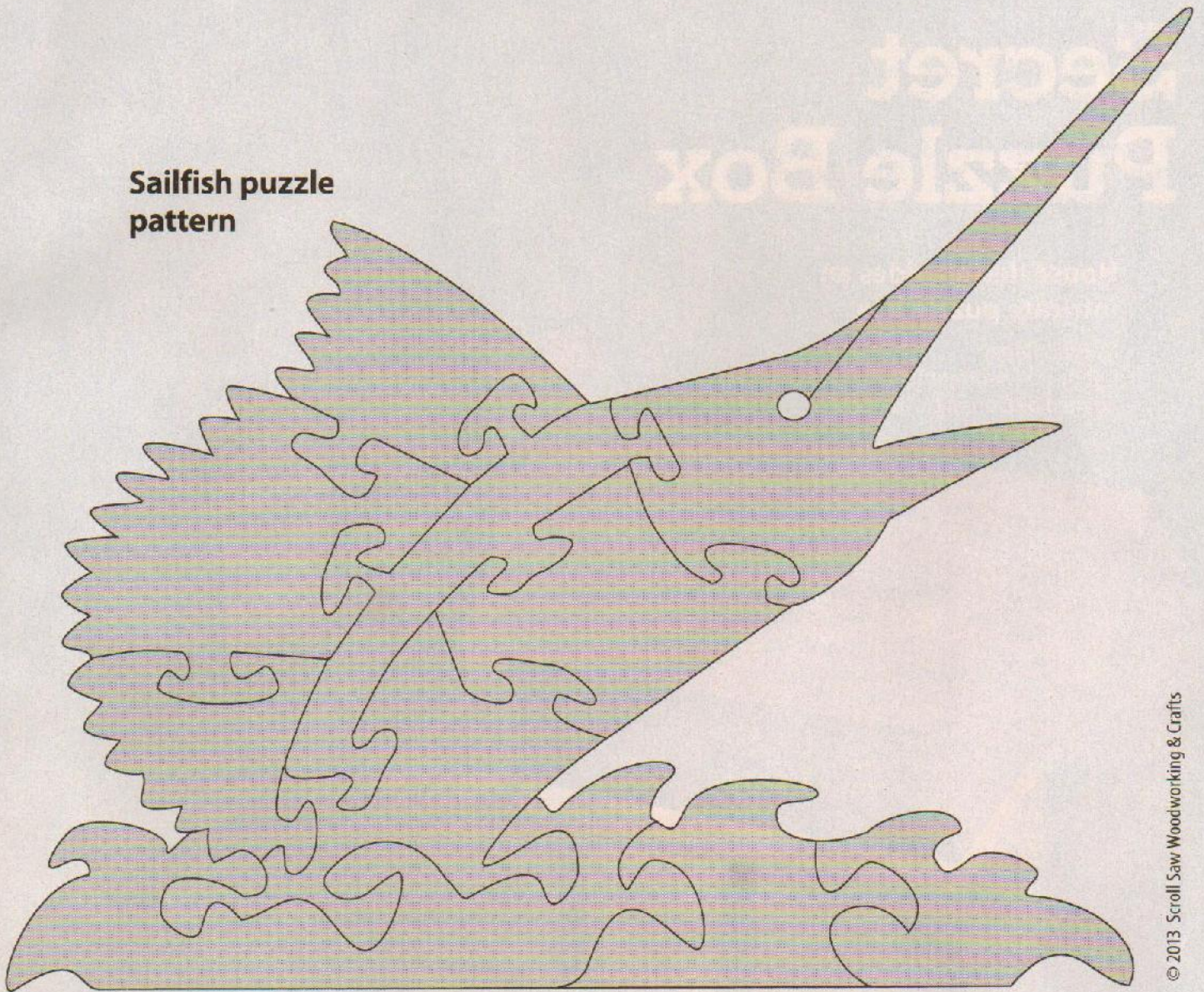


I've always enjoyed fishing. Thankfully my brother, Rick, has a seaworthy vessel, and we often spend time deep-sea fishing along with friends and family. While we haven't been blessed with one of these beauties yet, our escapades have been memorable nonetheless. My design inspiration comes from my love of the sea and its inhabitants.

I cut this puzzle from $\frac{3}{4}$ " (19mm)-thick stock to make it self-standing. Sometimes, however, you'll find that puzzles cut from thick stock can't be taken apart from both sides. You can avoid this frustration by following these simple steps:

- **Cover the pattern with clear packaging tape.** The lubricant applied to the tape to keep it from sticking to itself on the roll lubricates the blade, which reduces blade wear. It also helps prevent scorching the wood when you make a tight turn.
- **Check your saw table.** Use one of the methods on page 78 to make sure the blade is exactly perpendicular to the saw table. If it's off even a degree or two the puzzle pieces will not come apart properly.
- **Keep the blade tension high.** When you cut thick wood, the blade can bend, which changes the angle of the cut. The tighter the tension on the blade, the less the blade will bend.
- **Let the blade cut at its own speed.** When you approach a turn, slow down the speed at which you feed the wood into the blade. I try to release all of the pressure I exert on the blade to allow the blade to catch up. This ensures that the blade is running up and down perpendicular to the table.
- **Watch how you cut.** Make sure you feed the wood directly into the blade. Do not apply pressure from one side or another. This sideways pressure causes the blade to flex and changes the angle of the cut.

Sailfish puzzle pattern



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Materials & Tools

Materials:

- Curly maple, $\frac{3}{4}$ " (19mm)-thick: $6\frac{1}{2}$ " x 8" (165mm x 203mm)
- Spray adhesive
- Clear packing tape
- Sandpaper
- Boiled linseed oil
- Stain: walnut (optional)

Tools:

- Blade: #5 or #7 such as Flying Dutchman Polar

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



Kip Travis lives in North Carolina with his wife, Amanda. He has eight children; five are grown and three still live at home. Kip is a self-taught professional woodworker/designer and can be reached at kip_travis@yahoo.com.

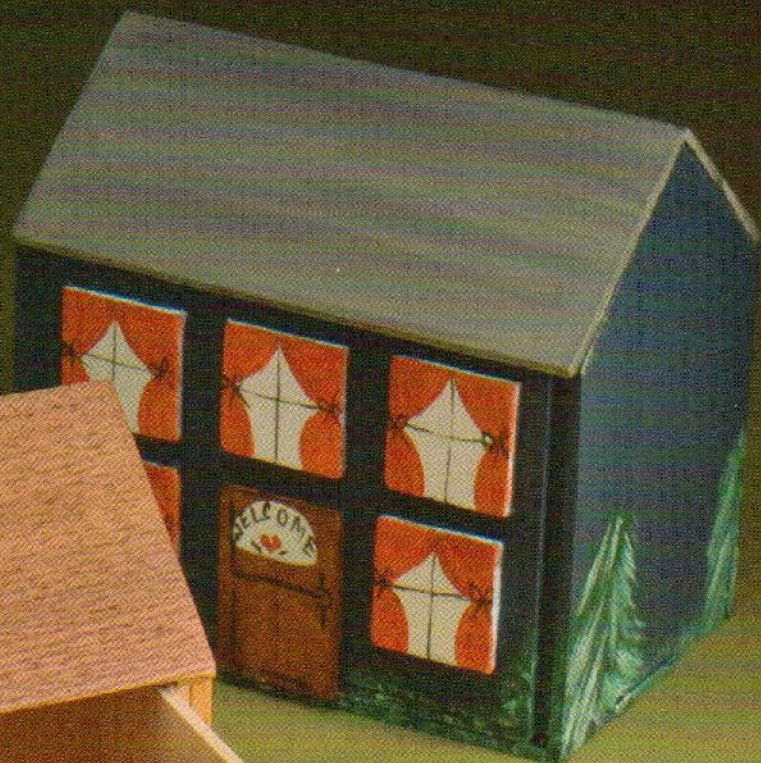
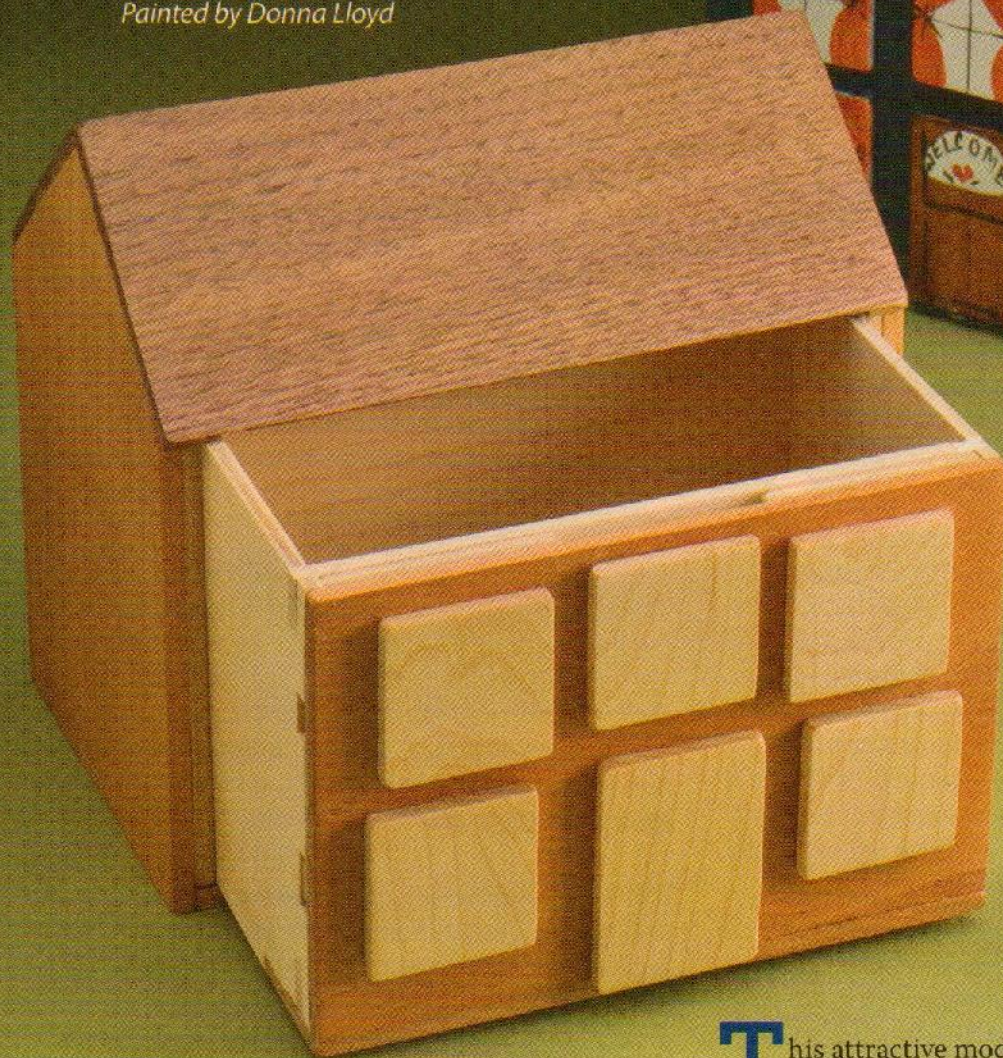
Secret Puzzle Box

House design hides an intricate puzzle box

By Bruce Viney

Cut by Rolf Beuttenmuller

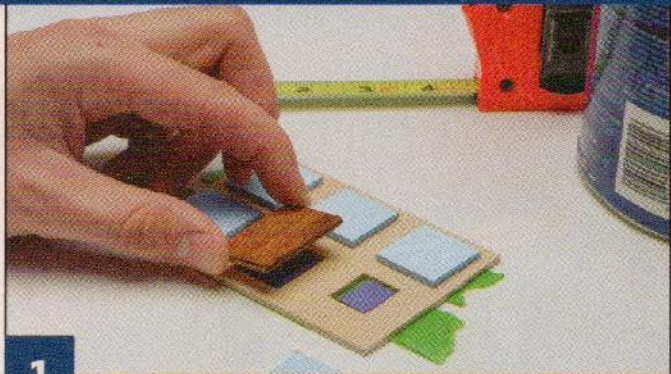
Painted by Donna Lloyd



Note: The pieces in the step photographs were tinted to match the drawings for instructional purposes only. See the finishing tips on page 50 for information on painting the project.

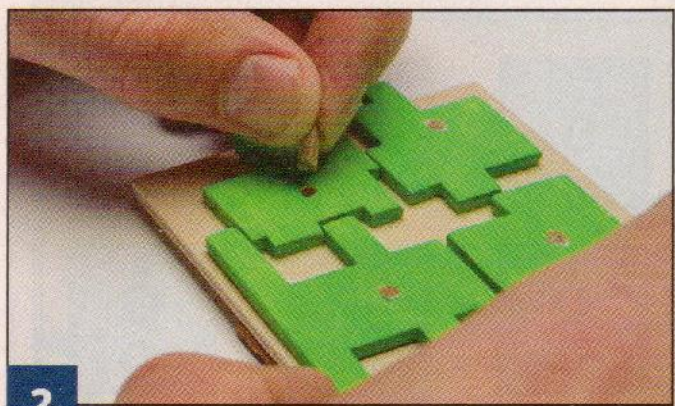
This attractive model house hides a neat surprise. If you move the windows and door in a specific pattern, the house opens to reveal a hidden compartment!

Start by sanding the blanks with progressively finer grits of sandpaper up to 220 grit. The smoother the wood, the smoother the action of the box will be. Then, attach the patterns to the blanks, cut along the lines, and remove the patterns. Cut the pieces as listed in the parts list. Label all of the pieces. Carefully sand off any rough spots and re-label the pieces as necessary.



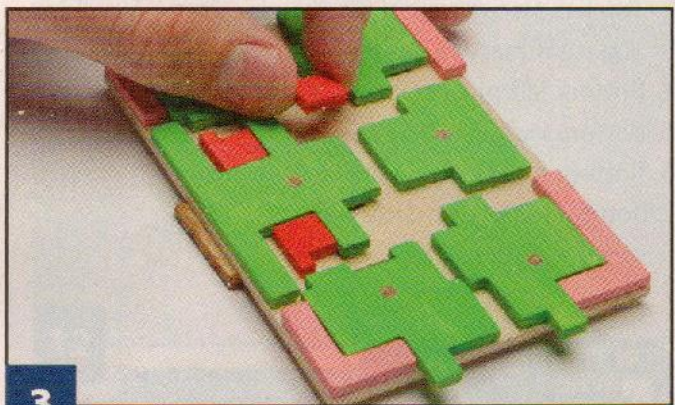
1

Glue the windows and door to the spacers. Use Drawing A as a guide. Place painter's tape sticky-side up on the bench and put the front outer panel (FO) face-up on the tape. Position the spacers (LUS, MUS, RUS, LLS, MLS, RLS) inside the window and door openings. The tape keeps the pieces from moving out of position. Apply wood glue to the spacers and position the windows (W) and door (D), gluing them to the spacers only, not to the front outer panel. Peel the panel off the tape.



2

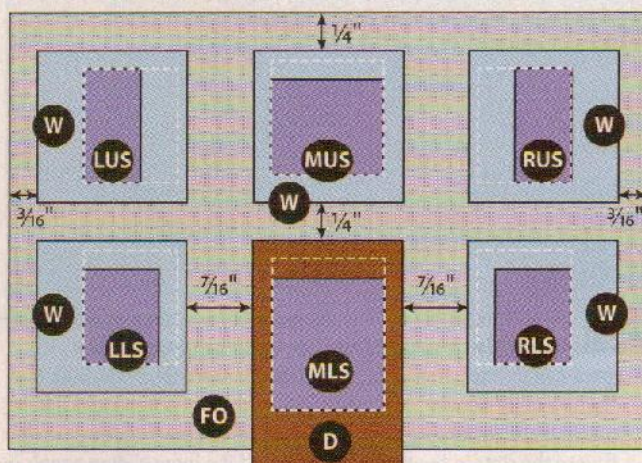
Add the inner sliding panels. Flip the front outer panel (FO) face-down and make sure the windows, door, and spacers are positioned as shown in Drawing B. Glue the inner sliding panels (LUP, MUP, RUP, LLP, LMP, RLP) to the spacers. Drill $\frac{1}{8}$ " (3mm)-diameter holes through the inner sliding panels and the spacers, and halfway through the door and windows. Cut the dowel pins (SPDP) to size and glue them into the holes to reinforce the mechanism. Be careful not to get any glue on the front outer panel.



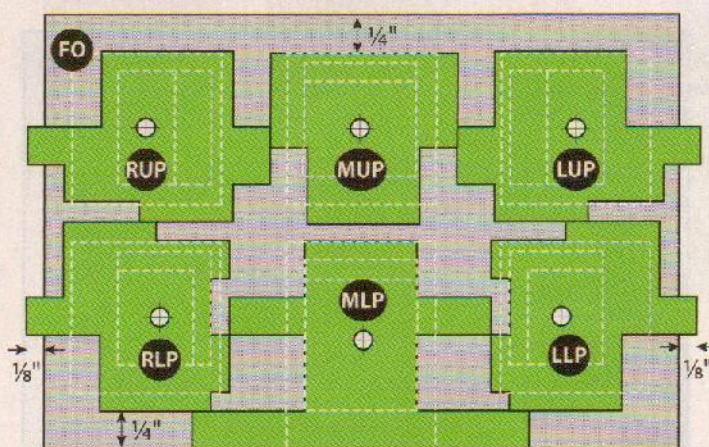
3

Attach the panel supports. With the front outer panel (FO) face down, refer to Drawing C and glue the four corner panel supports (TCS, BCS) to the back of the front panel. Then, glue the four panel stops (PS) in place. When the glue is dry, drill a $\frac{1}{8}$ " (3mm)-diameter hole through the center of each panel stop and halfway through the front panel. Cut the dowel pins (PSDP) to size and glue them in place.

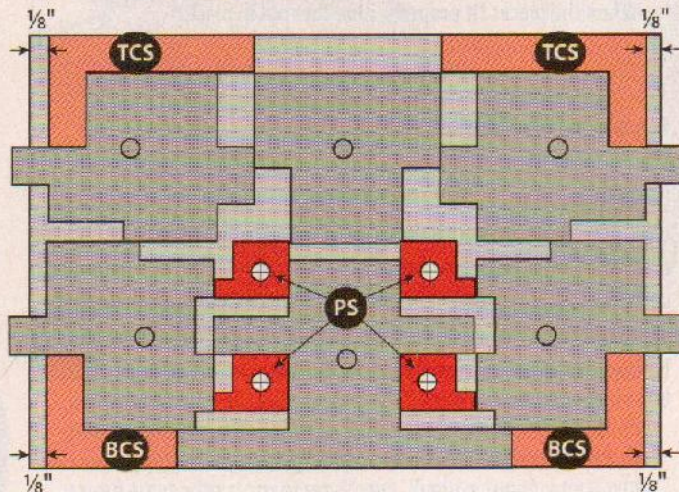
Drawing A (face up)



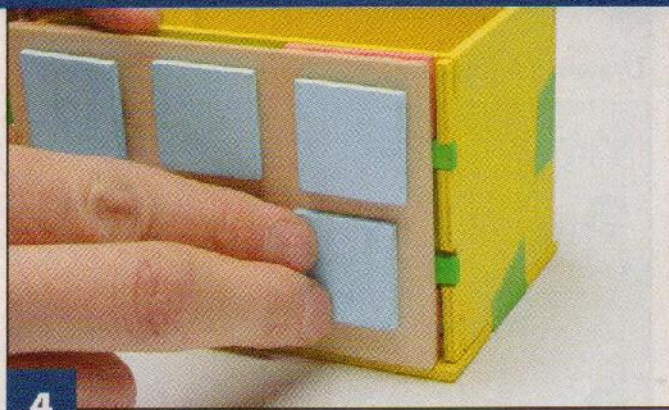
Drawing B (face down)



Drawing C (face down)

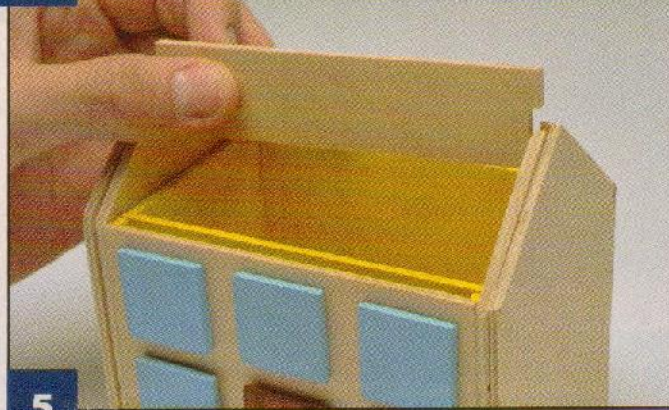


HOUSE BOX: ASSEMBLING THE HOUSE



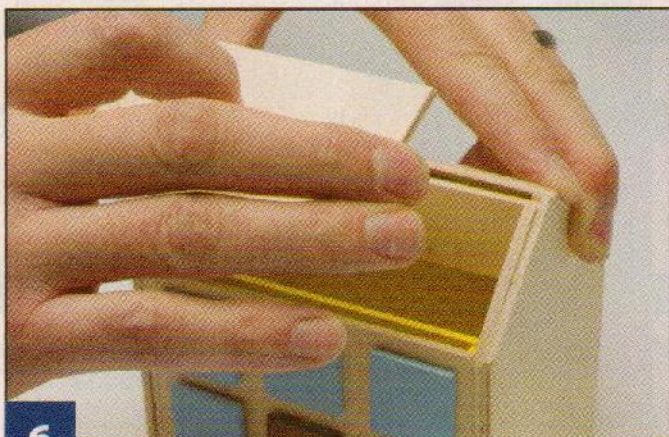
4

Assemble the inner box. Dry-assemble the inner box front panel, side panels, back panel, and bottom (FI, SI, BI, BOI). Use the assembly drawing as a guide. Place the front outer panel (FO) in position and make sure the locking tabs on the inner sliding panels fit into the slots in the inner side panels. If the inner sliding panels (or the windows and door) are tough to move, insert pieces of cardstock between the panel stops and the front inner panel. When everything works properly, glue and clamp the pieces together.



5

Assemble the outer house. Dry-assemble the sides, bottom, and brace (HIS, HOB, HBO, HB, HOS). Test the fit of the inner box to make sure the locking tabs fit into the slots in the house inner sides (see Opening the Box). When you are sure everything fits, glue and clamp the house sides, bottom, and brace together.

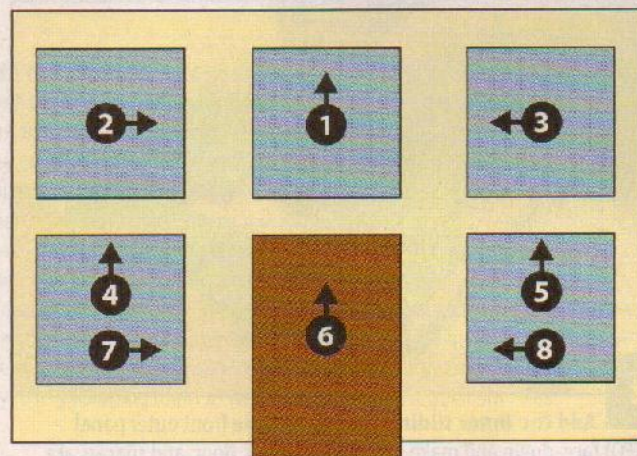


6

Add the roof. Place the roof pieces in position. Roof RA overlaps roof RB. You may need to sand or file the ends of the roof pieces at this overlap to get a tight fit. If the bottom edges of the roof extend too far for the box to open, sand or file off the excess. When the pieces fit properly, glue the roof in place.

Finishing the Box

To ensure the mechanism works smoothly, do not finish the inner box. However, you can finish the outer box as you choose. You could paint house details onto the project or woodburn the details onto an unpainted box. Whatever you do, seal the wood with several coats of clear finish to protect the box because everyone will want to play with it.



Opening the Box

You assembled the front panel in the locked position. To unlock it, follow these steps:

1. Top middle piece upward.
2. Top left piece to the right.
3. Top right piece to the left.
4. Bottom left piece upward.
5. Bottom right piece upward.
6. Bottom middle piece upward.
7. Bottom left piece to the right.
8. Bottom right piece to the left.

ON THE WEB Print-and-paste realistic wallpaper.
www.scrollsawer.com

Download brick, wood, glass, and shingle textures for the house. Cut the wallpaper to size and glue it to the exterior of your project for an instant finish.



Parts list

Part #	Description	Dimension	Quantity
W	Windows	1/8" x 1" x 1" (3mm x 25mm x 25mm)	5
LUS, RUS	Left/right upper spacers	1/8" x 3/8" x 3/4" (3mm x 10mm x 19mm)	2
MUS	Middle upper spacer	1/8" x 3/8" x 3/4" (3mm x 16mm x 19mm)	1
LLS, RLS	Left/right lower spacers	1/8" x 1/2" x 3/8" (3mm x 13mm x 16mm)	2
MLS	Middle lower (door) spacer	1/8" x 3/4" x 7/8" (3mm x 19mm x 22mm)	1
D	Door	1/8" x 1" x 1 1/2" (3mm x 25mm x 38mm)	1
DP	Dowel pins/door & windows	1/8" (3mm)-diameter by 3/16" (10mm)-long	6
DP	Dowel pins/panel stops	1/8" (3mm)-diameter by 3/16" (6mm)-long	4
RA	Roof A	1/8" x 2 1/8" x 4 3/4" (3mm x 54mm x 121mm)	1
RB	Roof B	1/8" x 2" x 4 3/4" (3mm x 51mm x 121mm)	1
HOB	House outer back	3 1/4" x 4 3/4" (83mm x 121mm)	1

Legend

RA	.....	Roof A
RB	.....	Roof B
HB	.....	Roof brace
HOB	.....	House outer back
HBO	.....	House bottom
HIS	.....	House inner side
HOS	.....	House outer side
BI	.....	Back inner panel
BOI	.....	Bottom inner panel
SI	.....	Side inner panel
FI	.....	Front inner panel
LUP, RUP	....	Left/right upper panel
MUP	.....	Middle upper panel
LLP, RLP	....	Left/right lower panel
MLP	.....	Middle lower panel
TCS	.....	Top corner support
BCS	.....	Bottom corner support
PS	.....	Panel support
LUS, RUS	...	Left/right upper spacer
MUS	.....	Middle upper spacer
LLS, RLS	....	Left/right lower spacer
MLS	.....	Middle lower spacer
FO	.....	Front outer panel
W	.....	Window
D	.....	Door

Materials:

- Baltic birch plywood, 1/8" (3mm)-thick: 2 each 12" x 12" (305mm x 305mm)
- Dowels, 1/8" (3mm)-diameter: 3 3/4" (95mm) long
- Wood glue
- Spray adhesive
- Sandpaper: assorted grits up to 220
- Finish: clear spray

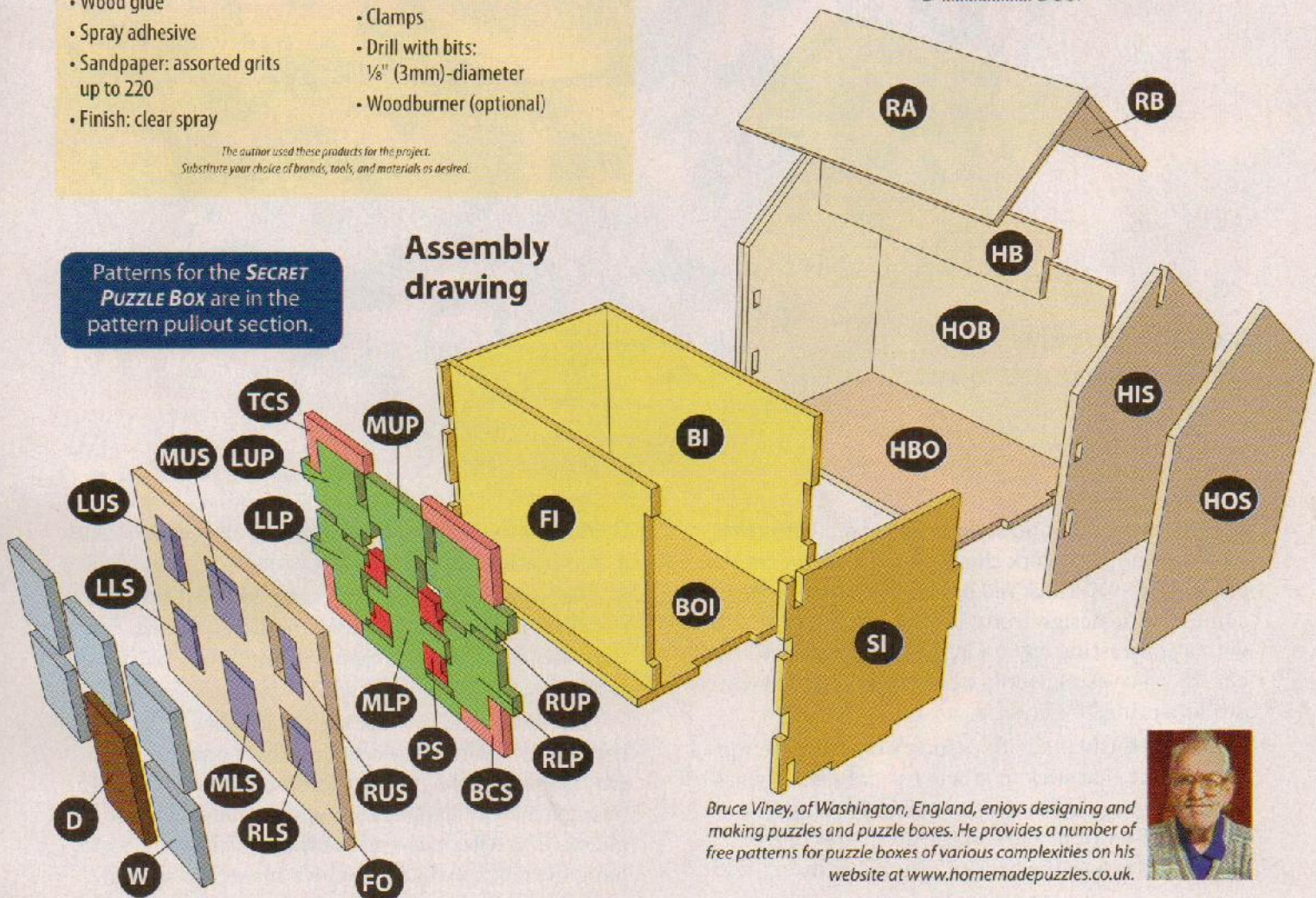
*The author used these products for the project.
Substitute your choice of brands, tools, and materials as desired.*

Materials & Tools

- Acrylic paints (optional)
 - Painter's tape
- Tools:**
- Blades: #1 reverse-tooth
 - Clamps
 - Drill with bits: 1/8" (3mm)-diameter
 - Woodburner (optional)

Patterns for the **SECRET PUZZLE BOX** are in the pattern pullout section.

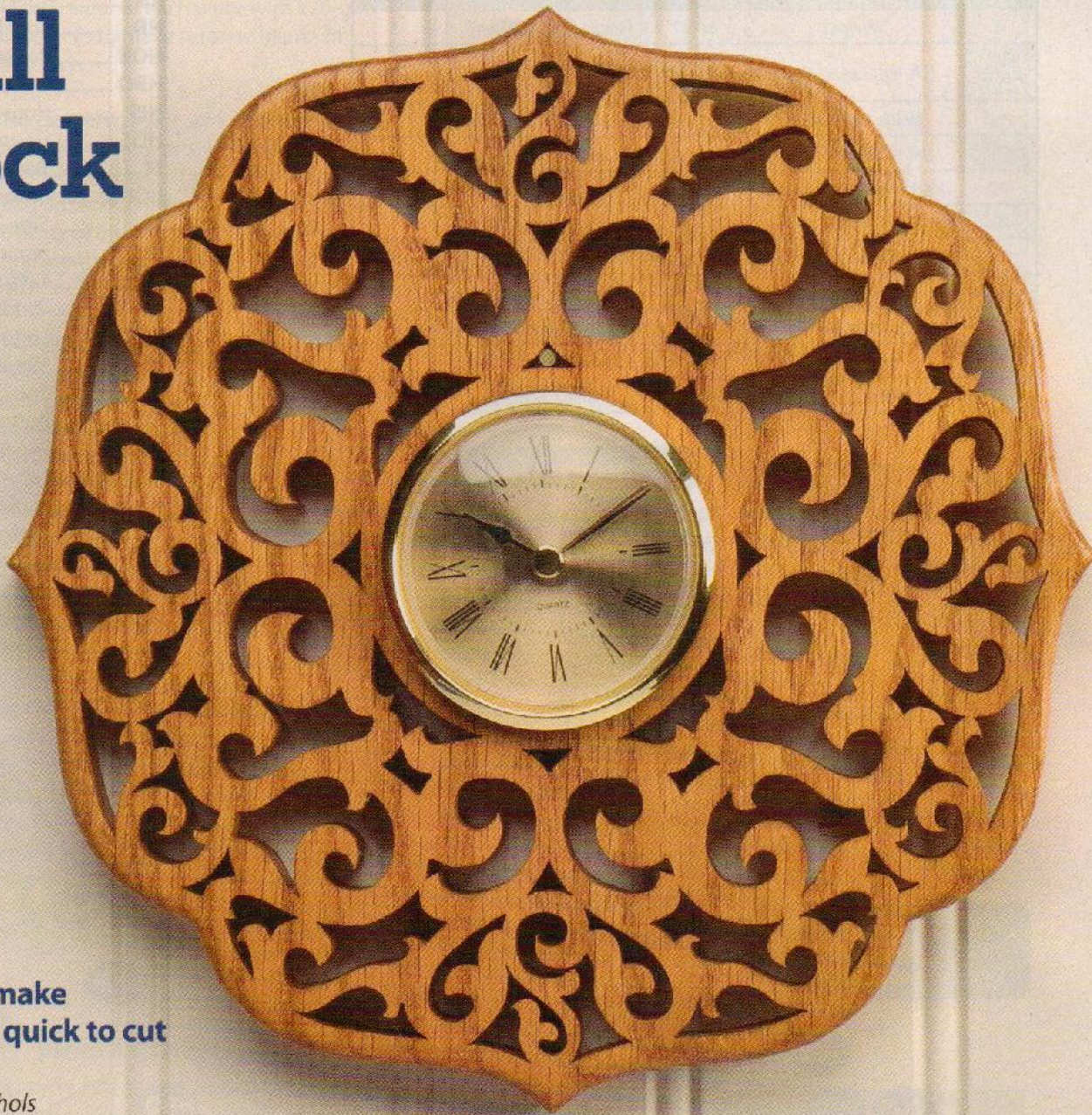
Assembly drawing



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



Easy-Cut Fretwork Wall Clock



**Large frets make
this pattern quick to cut**

*By Sue Mey
Cut by Norm Nichols*

Bring warmth and style to any room with this swirling fretwork clock. Norm Nichols cut the pattern from $\frac{3}{8}$ "-thick red oak. For a different look, you could cut the design from thinner wood and back it with a contrasting color. Or, use the bonus pattern and cut the piece as a trivet instead. The set makes a great gift for spring holidays.

Cover the blank with painter's tape and use spray adhesive or glue stick to attach the pattern. Then, drill the blade-entry holes and cut the frets using a #5 reverse-tooth blade. Cut the perimeter of the pattern. Measure the back of your clock insert, and

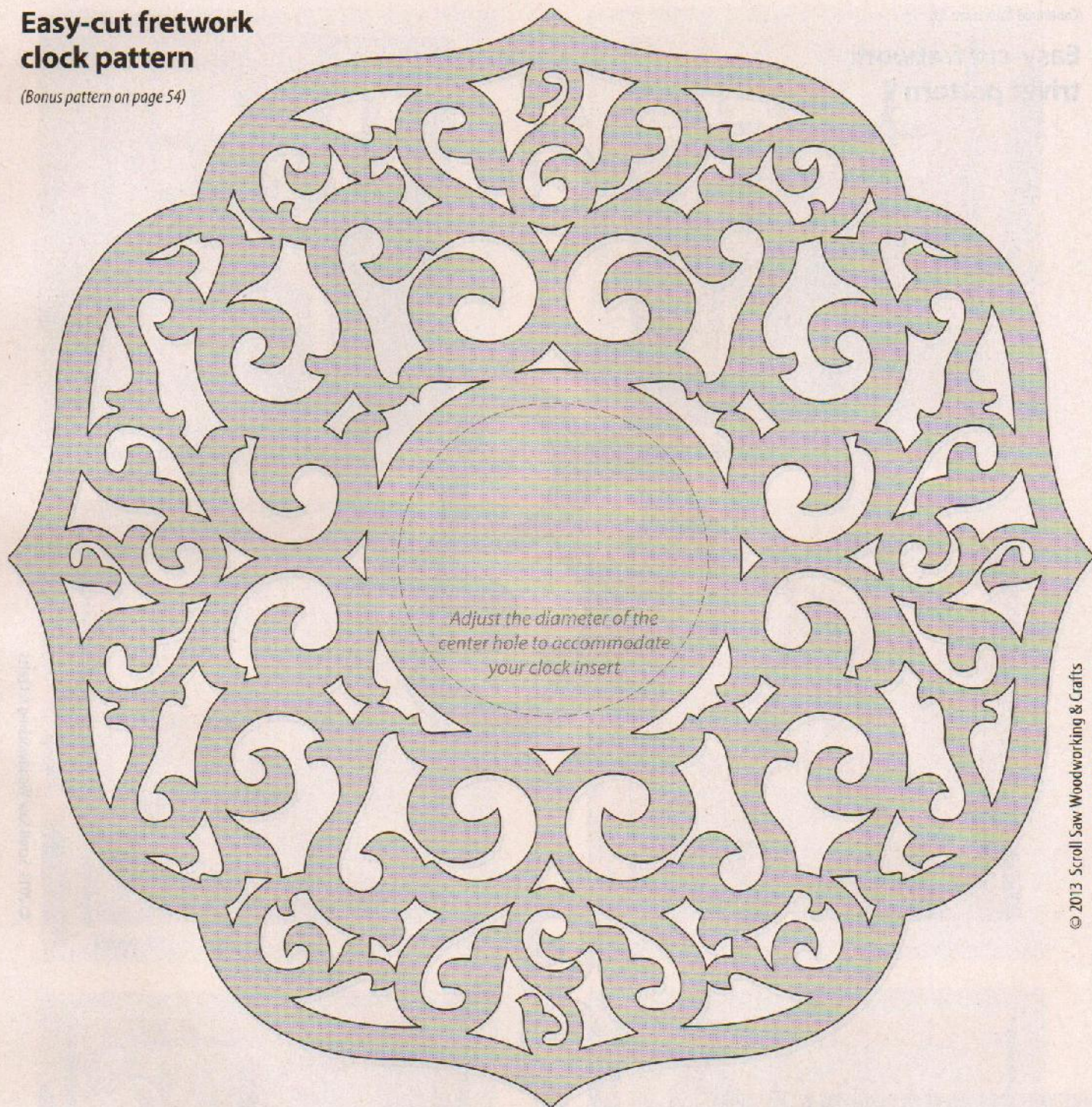
then draw the circle for the opening on the wood with a compass and cut the clock opening.

Remove the patterns and tape. Sand all surfaces of the clock by hand and remove the sanding dust. Soften the outer edge of the project by rounding it with sandpaper.

Apply natural or clear stain and allow it to dry, and then apply several thin coats of clear spray varnish. On the back of the frame, center and attach a small triangle picture hanger with epoxy glue and allow the glue to dry. Alternatively, use the top fret opening to hang the clock. Attach the clock insert and display.

Easy-cut fretwork clock pattern

(Bonus pattern on page 54)



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Materials:

- Red oak, $\frac{5}{8}$ " to 1" (16mm to 25mm) thick: per project, $7\frac{3}{4}$ " x $7\frac{3}{4}$ " (197mm x 197mm)
- Painter's tape
- Temporary-bond spray adhesive or glue stick
- Sandpaper

- Stain, such as Minwax: natural or clear
- Spray varnish
- Picture hanger and epoxy glue (optional)
- Clock insert: $2\frac{1}{2}$ " (64mm) diameter

Materials & Tools

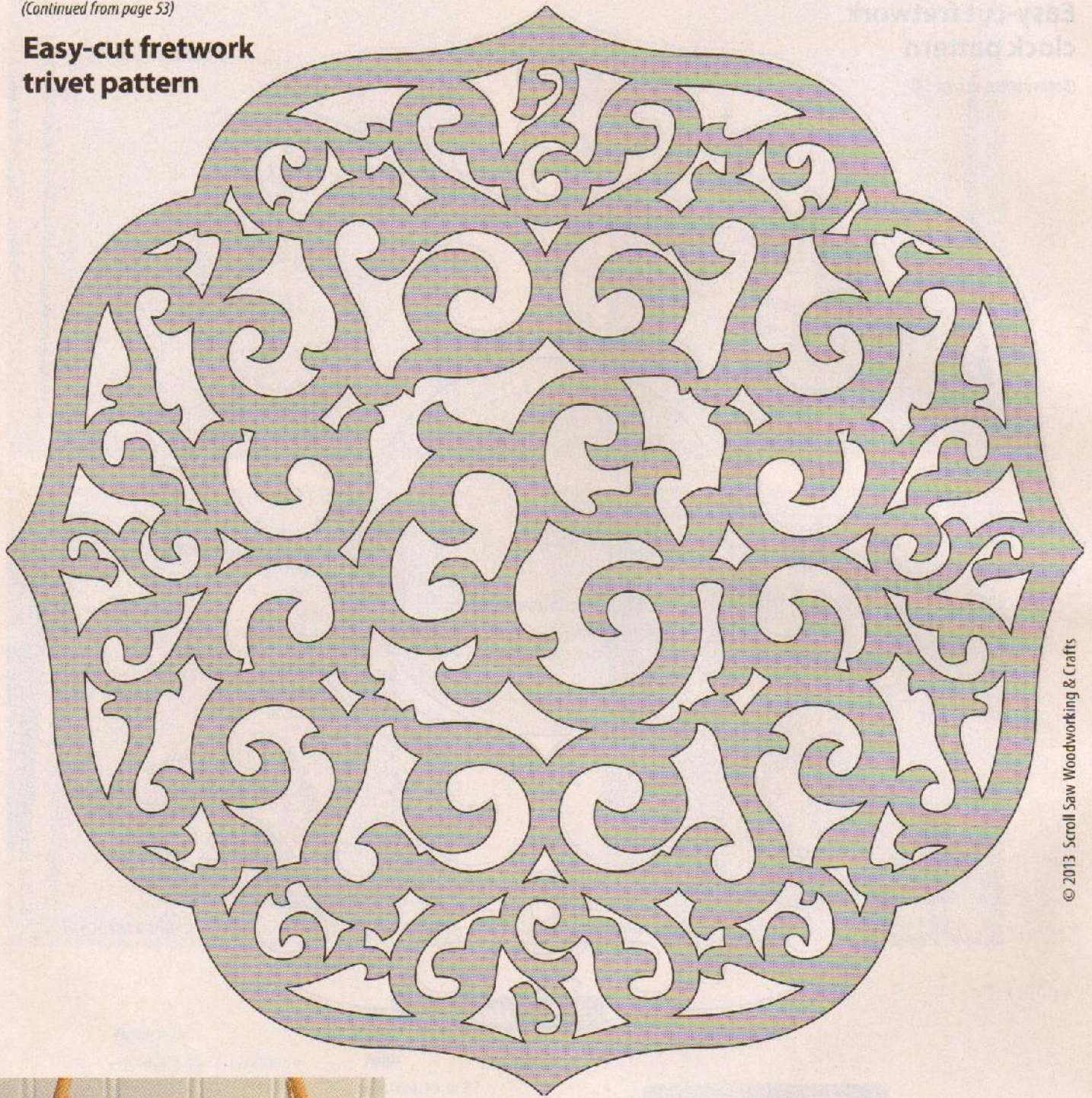
Tools:

- Blades: #5 reverse-tooth
- Drill press with $\frac{1}{16}$ " (2mm)-diameter bit
- Ruler
- Compass

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

(Continued from page 53)

Easy-cut fretwork trivet pattern



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Follow the dock
instructions to make
a trivet using this
bonus pattern with
a solid center.



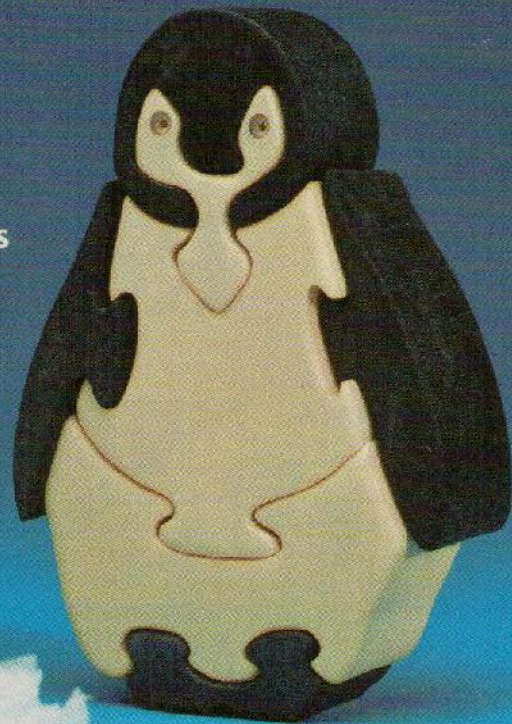
Sue Mey lives in Pretoria, South Africa. To see more of her work, including a wide variety of patterns and pattern-making tutorials available for purchase, visit www.scrollsawartist.com. Her first pattern book, *Lighted Scroll Saw Projects*, is available from www.schifferbooks.com and other outlets.

Penguin Chick Puzzle

Simple technique creates contrasting colors

By Judy and Dave Peterson

People have been asking for penguin puzzles—and I have been designing them—for more than a decade. I used to cut penguins from a variety of hardwoods—primarily cherry and walnut. But in 2006, I discovered and started using Behlen's jet-black dye to make more realistic penguins. The alcohol-based dye is easy to use and widely available at woodworking supply stores and online.



Cutting the Puzzle

Before you begin cutting, drill the holes for the eyes. Then, create the impression of an alert chick by using a teardrop-shaped carving bit in a drill press to expand the holes slightly to a depth of $\frac{1}{16}$ " (2mm). Start cutting wherever you like. Remove any irregularities on the edges of the pieces with a disc sander. I use one in a handheld variable-speed drill in a drill stand.

I do my flat sanding with a drum sander. I bind the pieces together with a rubber band and feed the assembled puzzle through the drum sander. If I don't secure the pieces with a rubber band, I end up with crunched pieces. Soften the edges of the pieces with a flap sander.

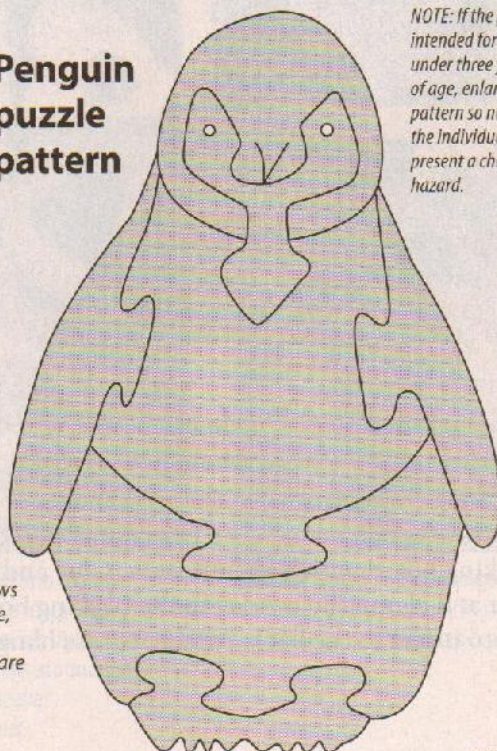
Finishing the Puzzle

Dye the black pieces first and let them dry thoroughly for 24 to 48 hours. The Behlen's dye is an alcohol-based product. Our dog thought it smelled interesting enough to eat one of the dyed pieces. To be safe, dry the dyed pieces out of reach of your pets. After the dyed pieces dry, finish all of the pieces with clear Danish oil.



A former teacher and librarian, Judy Peterson found her niche in life as a woodworker. A winner of many design awards, she sells her puzzles at art shows around the country. Her husband, Dave, runs the record-keeping side of the business. Together they have written several books, which are available at www.foxchapelpublishing.com.

Penguin puzzle pattern



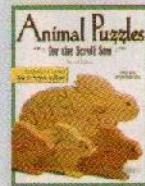
NOTE: If the puzzle is intended for a child under three years of age, enlarge the pattern so none of the individual pieces present a choking hazard.

Further Reading

Animal Puzzles for the Scroll Saw, 2nd Edition

By Judy and Dave Peterson

This expanded edition of the wildly popular pattern book shows you how to create more than 50 interlocking, upright animal puzzles.



Available for \$17.95 + \$3.99 S&H (parcel post) from Fox Chapel Publishing, www.FoxChapelPublishing.com, 800-457-9112, 1970 Broad St., East Petersburg, Pa., 17520, or check your local retailer.

Materials & Tools

Materials:

- Aspen or maple, 1" (25mm)-thick; 3" x 4" (76mm x 102mm)
- Repositionable spray adhesive
- Sandpaper: 220 grit
- Dye, such as Behlen's: black
- Danish oil: clear

Tools:

- Blades: #7 skip-tooth or reverse-tooth
- Drill press and bits: $\frac{1}{16}$ " (2mm)-diameter, $\frac{1}{4}$ " (6mm) diameter teardrop-shaped carving bit
- Drill: variable speed hand-held with trigger lock
- Drill stand
- Sanding disc
- Flap sander

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

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Romantic Hearts Frame



Use inexpensive plywood and easy cuts to make a sentimental gift

By Enzo Santomarco

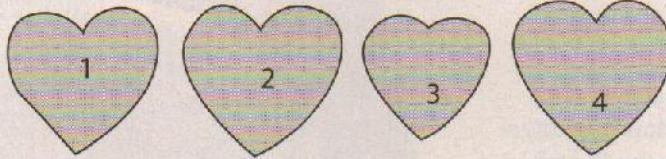
Just in time for St. Valentine's Day, this heart-themed picture frame is sure to be appreciated by that special someone in your life. Mine is dedicated to my wife, Nicoletta. The project is easy to cut and assemble, and can be used for a vertical or horizontal photo.

Making the Frame

Start by attaching the patterns to the blanks. I use a removable glue stick, but you can also use spray adhesive. Stack together the backing board and the overlay blank and cut around the perimeter of the stack. Separate the stack, drill $\frac{1}{16}$ " (2mm)-diameter blade-entry holes in the overlay, and cut the fretwork. Attach another copy of the pattern to the

backing board, drill a blade-entry hole, and cut the dotted rectangle for the photo insert. Then, cut the heart embellishments.

Sand the pieces with 220-grit sandpaper and remove the sanding dust. Paint the four hearts red, and apply a clear spray finish to the overlay and the hearts. Stain the backing board with a walnut stain. Glue and clamp the hearts to the overlay. Then, glue and clamp the overlay to the backing board. Use small brass turns to hold the photo insert to the back. Attach a brass hanger to the back or use a display easel.



Materials & Tools

Materials:

- Poplar plywood, $\frac{1}{8}$ " (3mm)-thick: overlay, $7\frac{7}{8}$ " x $9\frac{5}{8}$ " (200mm x 245mm); hearts, assorted scraps
- Poplar plywood, $\frac{1}{4}$ " (6mm)-thick: backing board, $7\frac{7}{8}$ " x $9\frac{5}{8}$ " (200mm x 245mm)
- Spray finish: clear acrylic
- Acrylic paint or dye: red
- Stain: walnut
- Wood glue
- Glue stick
- Sandpaper: 220 grit
- Brass picture turns: 4 each
- Brass hanger or display easel

Tools:

- Blades: #1 reverse-tooth
- Drill with bits: $\frac{1}{16}$ " (2mm)-diameter twist
- Clamps



Enzo Santomarco is a firefighter in Talsano, Italy. He can be reached at enzo.santomarco@virgilio.it.

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

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Tabletop Angels

Slotted wings support this stylized design and allow easy storage

By Jay S. Hammerle

My co-workers' wives collect angels, so I often ask what they think of my angel patterns. I created this pattern with their help—we thought a freestanding angel would make a nice centerpiece for the table. Group them with seasonal flowers to make a display appropriate for Easter, Christmas, a baptism, or a confirmation.

I've included two wing patterns—choose one for your project. Wing A is simple enough for a beginner, while more advanced scrollers might want to cut Wing B or add initials or other icons to the wings or angel's dress. You can glue the wings on for stability or leave them removable for easy storage. I sometimes enlarge the pattern for variety. Any way you cut them, these angels are easy to make for gifts or your own holiday display.

Cutting the Pieces

Cut the blanks to size, sand them smooth, and stack the wing blanks using your method of choice (see page 78 for several methods). Attach the patterns to the blanks using spray adhesive and roll out any bubbles. Measure the thicknesses of the blanks and adjust the widths of the slots as needed. Drill the blade-entry holes and cut the frets. Cut the perimeter of the angel, and then cut the perimeter of the wings.

Dry-assemble the angel to make sure the wings fit properly. You may need to sand the slots a bit so everything fits together. If the wings are a little loose, cut a round disc of wood and place it between the wings to push them out and tighten the slots.

Remove any rough spots from the pieces with sandpaper and remove the sander dust. Apply your finish of choice. I've stained and painted Baltic birch angels, but for hardwood angels, I apply a clear finish. Allow the finish to dry thoroughly.



Materials:

- Baltic birch plywood or mahogany, ¼" (6mm)-thick: body, 4" x 6¾" (102mm x 171mm); wings, 2 each 3" x 7¼" (76mm x 184mm)
- Spray adhesive
- Masking tape
- Sandpaper
- Stain or acrylic paint
- Clear glue (optional)

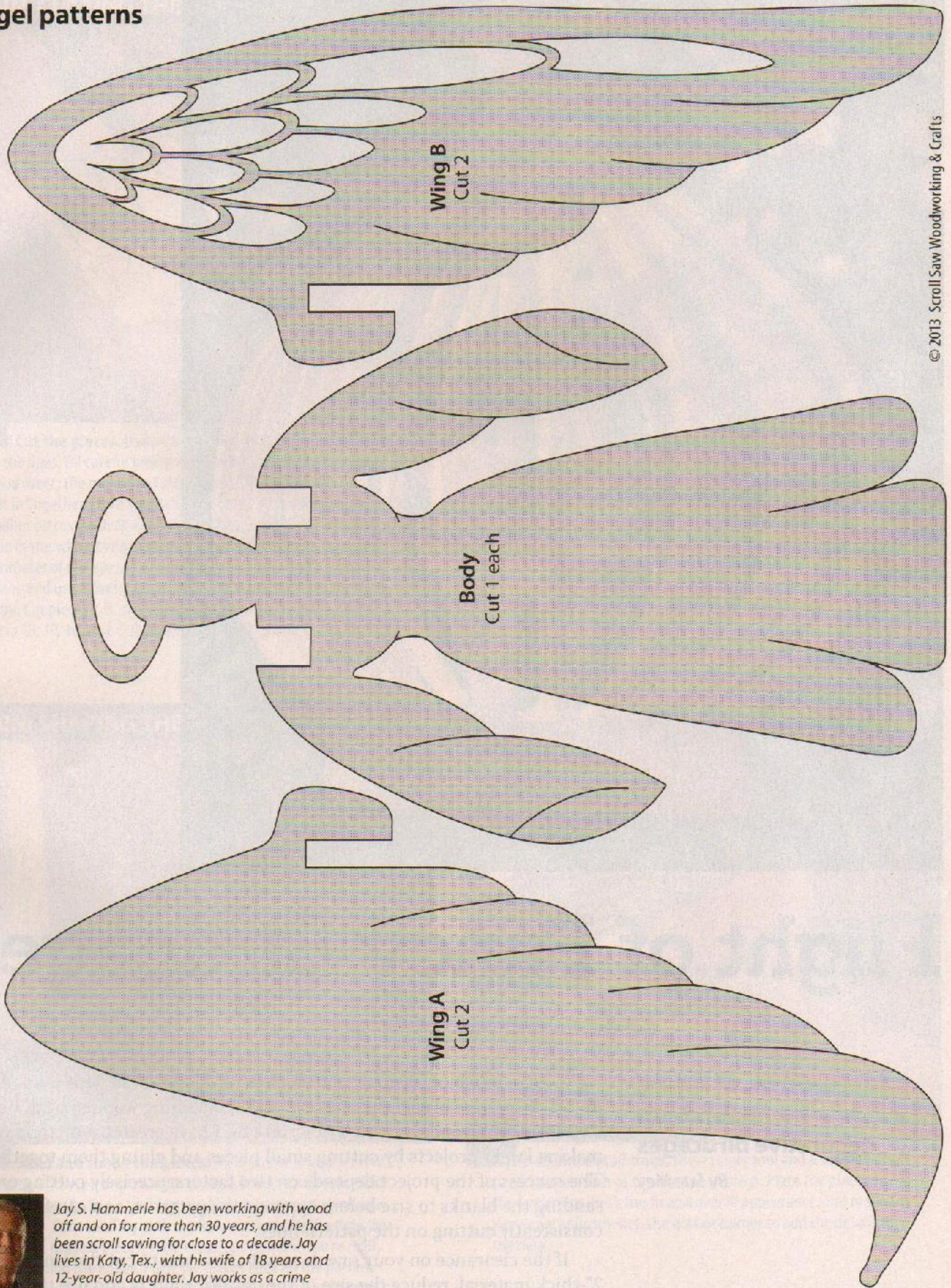
Tools:

- Blades, such as Flying Dutchman Ultra Reverse: #5 reverse-tooth
- Sander, such as a palm sander
- Drill or drill press and bits: ⅛" (2mm)-diameter
- Ruler

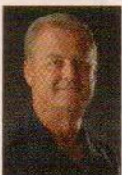
Materials & Tools

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

Angel patterns



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Jay S. Hammerle has been working with wood off and on for more than 30 years, and he has been scroll sawing for close to a decade. Jay lives in Katy, Tex., with his wife of 18 years and 12-year-old daughter. Jay works as a crime scene investigator in the Houston, Tex., police office's homicide division.



Flight of Fancy Birdcages

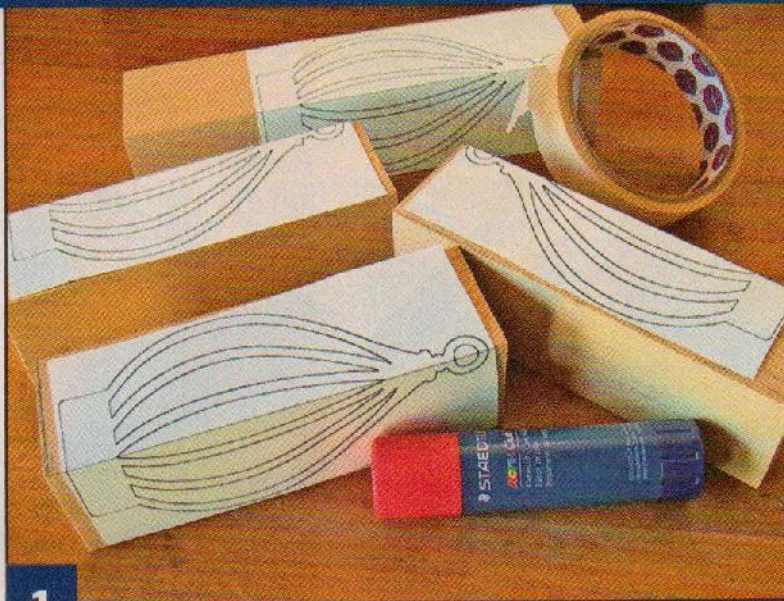
**Capture a bit of spring
with compound-cut
decorative birdcages**

By Sue Mey

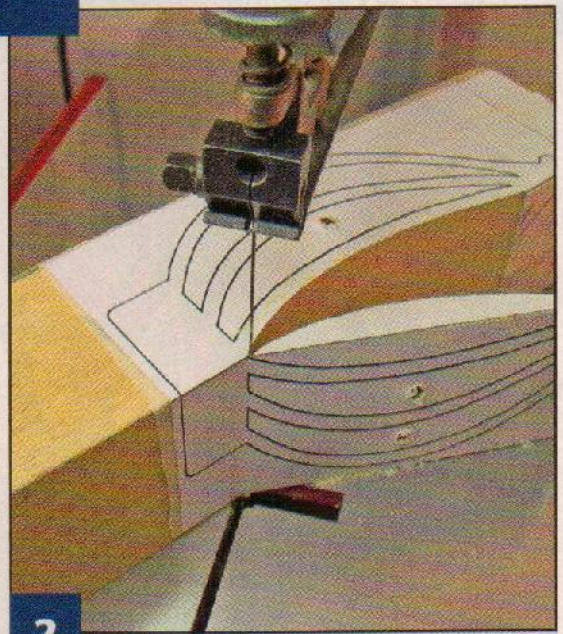
Add a touch of whimsy to your office or living room with a small decorative birdcage, complete with a matching wooden bird. Because large pieces of wood won't fit in a scroll saw, I have created a method of making larger projects by cutting small pieces and gluing them together. The success of the project depends on two factors: precisely cutting or sanding the blanks to size before applying the patterns, and carefully and consistently cutting on the pattern lines.

If the clearance on your saw does not allow you to cut the almost 2"-thick material, reduce the size of the pattern slightly and use the largest wood your saw will accommodate.

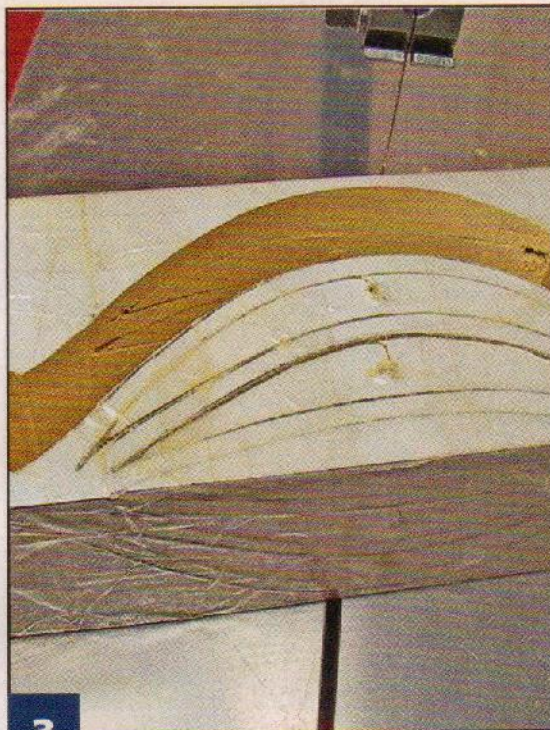
BIRDCAGE: CUTTING THE PIECES



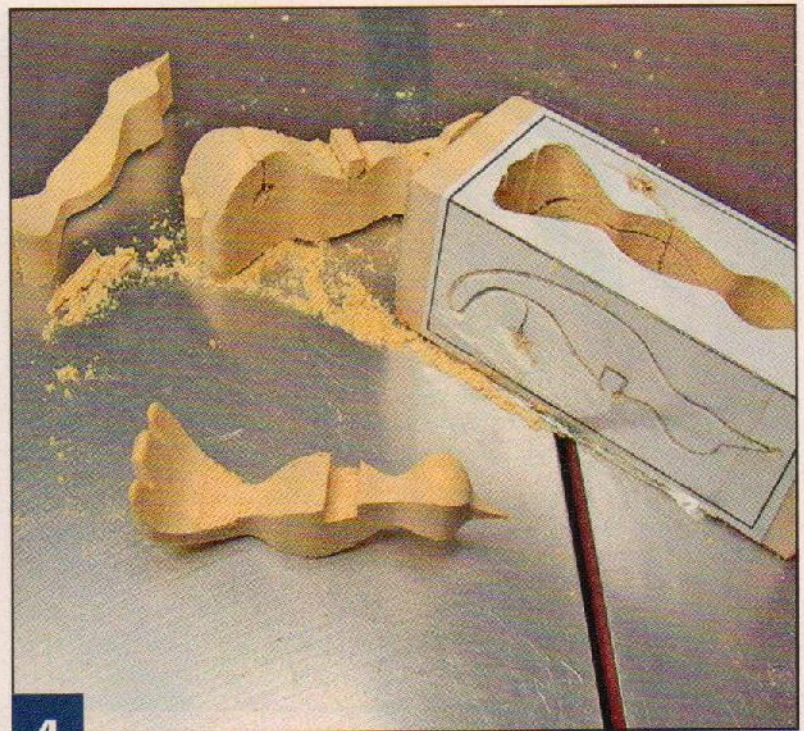
1 Prepare the blanks. Use a table saw to cut the blanks to size. You can also cut them with your saw of choice and use a disc sander or belt sander to sand the blanks to the exact dimensions. Cover the blanks with masking tape or blue painter's tape. Fold the patterns on the dotted lines, apply adhesive to the backs of the patterns, align the folds with the corners of the blanks, and press the patterns into place.



2 Make the initial cuts. Drill $\frac{1}{8}$ " (3mm)-diameter blade-entry holes in both sides for the frets. Using a #9 blade, cut the round opening at the top and the curved edge of one side. For these cuts, saw all the way through the wood but stop just before cutting the paper free; leaving the pattern intact makes it easier to align later.



3 Finish cutting the pieces. Using the #9 blade, cut the two frets in the side you began; then, cut around the perimeter. Vacuum away the dust and tape the pieces back in place. Rotate the blank and cut the second side. Carefully remove the completed birdcage section from the waste and peel off any remaining pattern or tape.

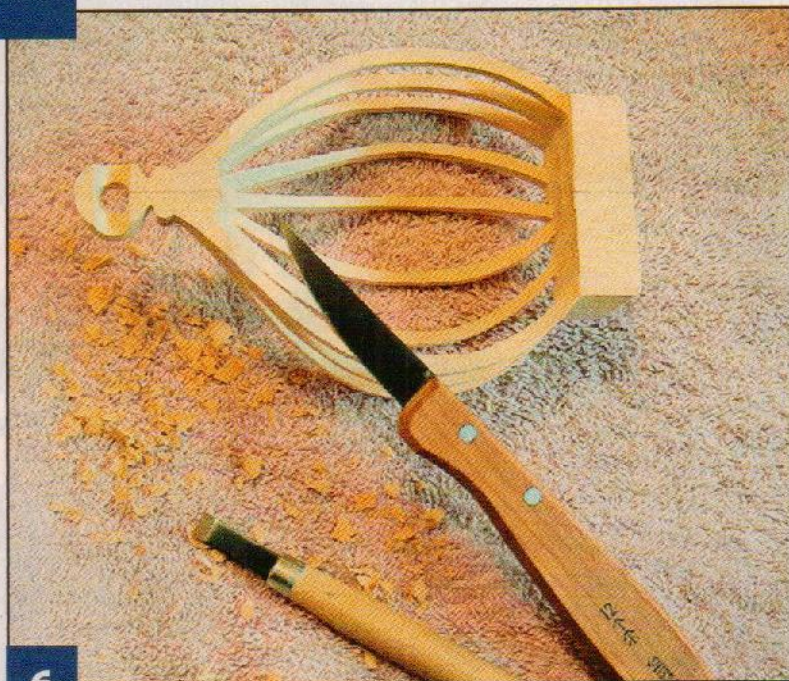


4 Cut the bird. Use a #7 blade to cut along one side of the bird pattern. Replace the waste, use clear tape to secure it, and then cut the second side. Use wood glue or cyanoacrylate (CA) glue to attach the wing section to the square mortise in the top of the bird body.



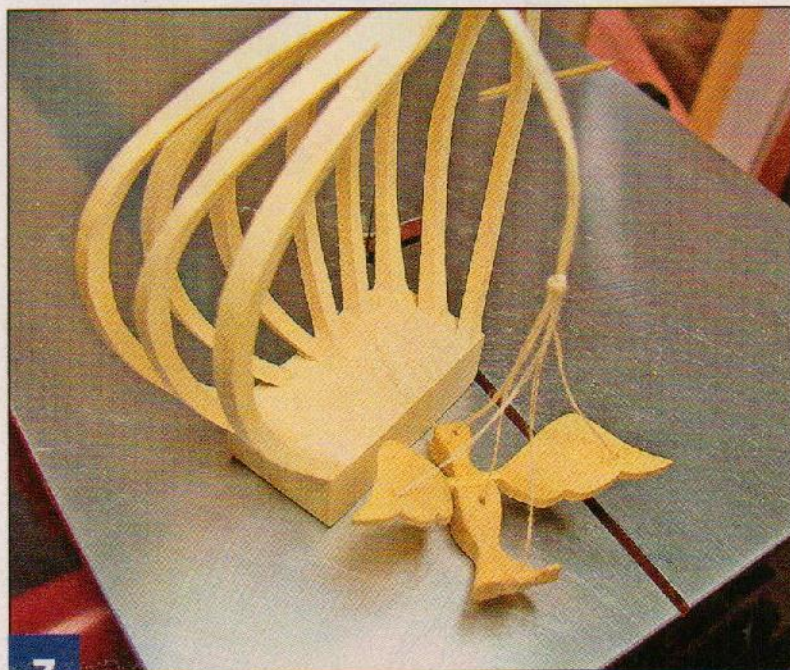
5

Glue together two sections of the birdcage. Glue and clamp together two pieces (each representing a quarter of the completed birdcage). Make sure the pieces line up nicely. Assemble the other half using the same technique. Do not assemble the two halves yet.



6

Remove the extra slats. To create an opening in the middle of the birdcage, you need to remove the extra slats. I use diagonal pliers to snip the slats as close to the top and bottom as possible, and use carving tools, a knife, or a rotary tool to smooth the inside of the cage. Carve a groove in the top to hold the bird-hanging string.



7

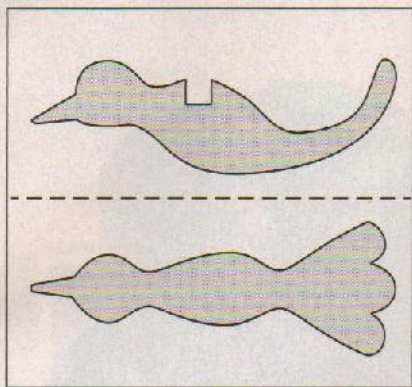
Attach the bird. Carefully hand-sand the bird and the inside surfaces of the two halves. Remove all of the sanding dust using a stiff-bristled paintbrush. Drill $\frac{1}{32}$ " (1mm)-diameter holes in the head, body, tail, and wings of the bird. Use CA glue to secure strands of cotton thread in the holes. Knot the threads together at the top.



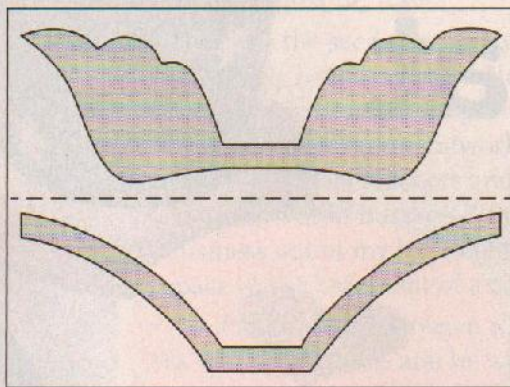
8

Assemble the project. Place the thread with the bird attached inside the groove you prepared, and then glue and clamp the two halves together. When the glue has dried, hand-sand the outside surfaces and remove irregularities. Apply several coats of clear spray varnish to the project. Allow the varnish to dry thoroughly between coats and sand it lightly with 500-grit sandpaper. Attach thin link chain to the top opening of the birdcage.

Bird patterns

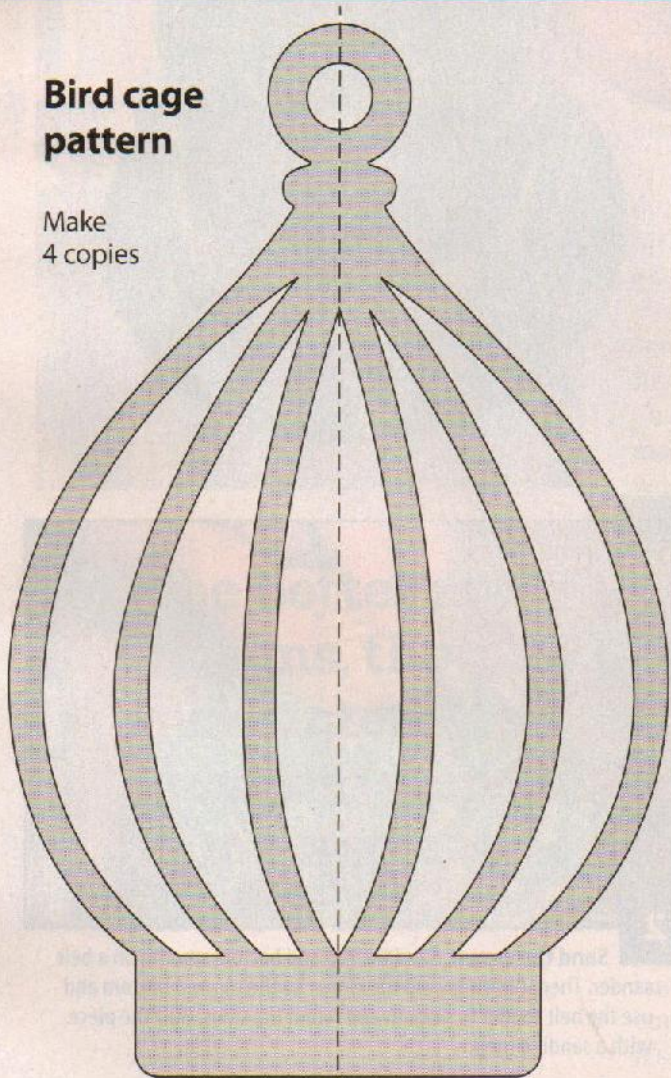


© 2013 Scroll Saw Woodworking & Crafts



Bird cage pattern

Make
4 copies



TIP

DIAGONAL PLIERS

You may have heard these tools called wire cutters or side cutters. They have diagonal blades on one side and allow you to easily cut off the extra slats close to the top and bottom, reducing the time spent carving away the extra wood.



Materials & Tools

Materials:

- Jelutong or basswood, 1 7/8" (48mm)-thick: birdcage, 4 each 1 7/8 x 5 1/16" (48mm x 145mm)
- Jelutong or basswood, 1" (25mm)-thick: bird's body, 1" x 2 3/16" (25mm x 56mm)
- Jelutong or basswood, 1" (25mm)-thick: bird's wings, 1" x 2 1/16" (25mm x 56mm)
- Temporary-bond spray adhesive or glue stick
- Tape: clear packing; masking or blue painter's
- Sandpaper
- Glue: wood; cyanoacrylate (CA)
- Varnish: clear spray

- Thin string or cotton thread

Tools:

- Scroll saw blades: #9 and #7
- Drill press and bits: 3/8" (3mm) and 1/32" (1mm) diameters
- Table saw (optional)
- Disc sander (optional)
- Stiff-bristled paintbrush
- Clamps
- Carving tools, whittling knife, and/or rotary tool
- Diagonal pliers

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



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

Scrolling a Decorative Top Hat

Two simple cuts make a hat for any season

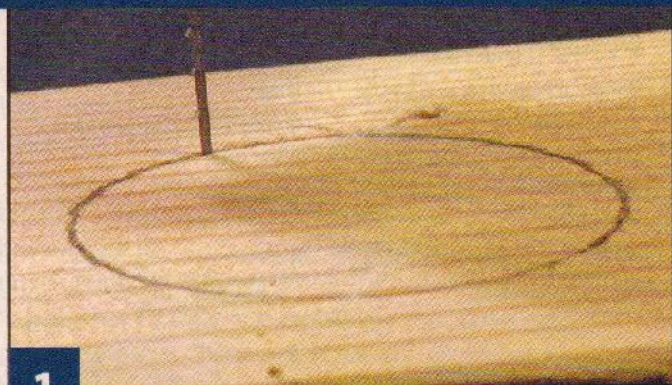
By Al Baggetta

The first person to be seen wearing a top hat was the Lord Mayor of London in 1747. Since then this type of hat has taken many forms and been worn by everyone from Frosty the Snowman to Abraham Lincoln. I have a simple way to make one using a scroll saw.

With a little bit of imagination and practice you will soon be cutting dozens of top hats to use as party favors, decorative knick-knacks, and ornaments. You can even become thematic about your work. A bit of green paint can produce little hats for St. Patrick's Day; some red, white, and blue paint along with some stars and stripes can produce some nice patriotic hats for the Fourth of July; black top hats decked with red or green ribbons are great for the Christmas season.

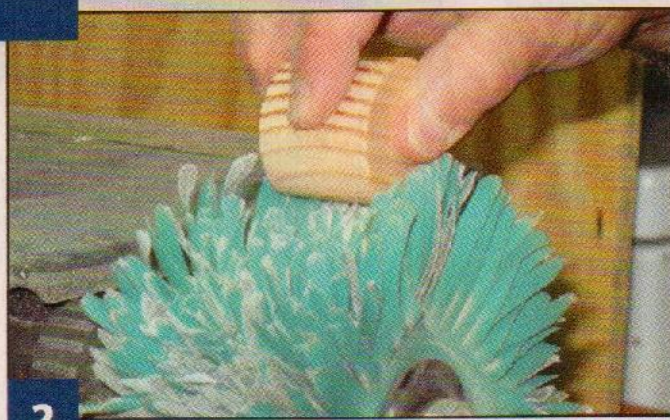


TOP HAT: MAKING THE HAT



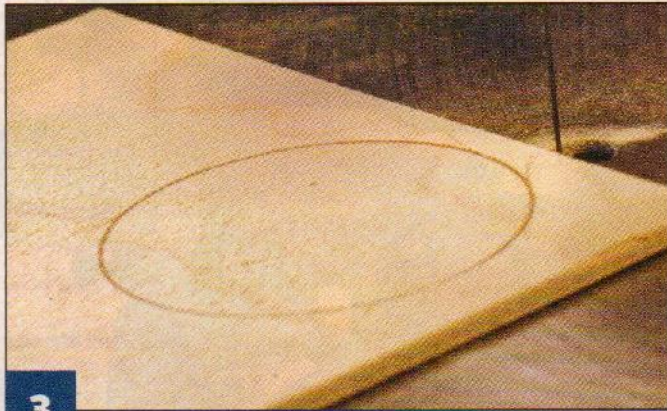
1

Cut the crown of the hat. Trace the pattern onto a piece of 2x4 construction lumber. I actually use the top of a pill bottle, but I provided a pattern for the article. Drill a $\frac{1}{8}$ " (3mm)-diameter blade-entry hole just outside the pattern line. Tilt the right side of the saw table down 3° and rotate the wood counterclockwise into the blade to produce a cylinder that is larger at the top than at the bottom. Return the saw table to 0° .



2

Sand the crown. Sand the top and bottom smooth on a belt sander. Then, carefully hold the crown by the top and bottom and use the belt sander to smooth and round the sides. Buff the piece with a sanding mop.



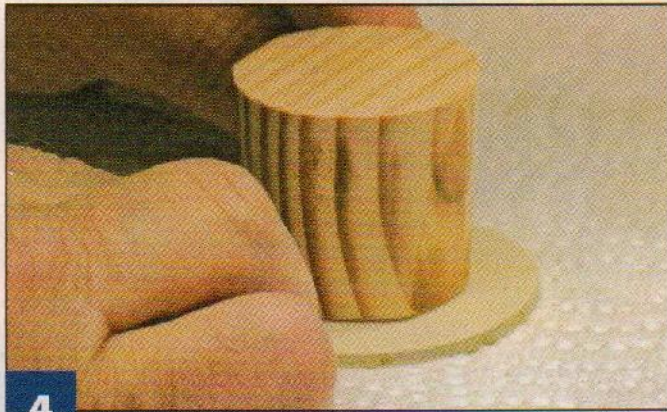
3

Cut the brim with a scroll saw. Transfer the brim pattern to $\frac{1}{8}$ " (3mm) to $\frac{1}{4}$ " (6mm)-thick Baltic birch plywood, or trace a spray paint cap. Make sure the blade is square to the saw table and cut the brim of the hat. Smooth the edges of the brim with a disc sander or sanding mop.



3a

Alternate: Cut the brim with a hole saw. If you have a $2\frac{1}{4}$ " (57mm)-diameter hole-cutting saw, you can use it to cut the brim. Set the guide bit well above the bottom of the hole saw so it does not drill a hole through the hat brim. Insert the hole saw in the drill press and make the cut. The blank can be difficult to hold so you may want to clamp it in place; the hole saw can rip it out of your hands and send it flying.



4

Assemble the hat. Spread glue on the bottom of the crown using a brush or your finger. Carefully center the crown on the brim and press it down firmly. Clamp if desired. Carefully wipe away any glue squeeze-out.

Finishing the Hat

After you assemble the hat, it's time to apply a finish. You can use just about any theme for the hat. For St. Patrick's Day, I sprayed a hat green and glued a shamrock shape to the crown. I sprinkled glitter on the entire hat and shamrock while the paint was still wet. You could also use ribbon to add a yellow hatband. I sprayed the Christmas hat with black paint and then sprinkled it with silver glitter. I cut a small holly leaf and glued it to the top of the hat and used a holiday-appropriate ribbon for the hatband.

Materials & Tools

Materials:

- Pine or fir construction lumber, 2" (51mm)-thick: assorted scraps
- Baltic birch plywood, $\frac{1}{8}$ " (3mm) to $\frac{1}{4}$ " (6mm)-thick: assorted scraps
- Spray paint
- Decorative ribbon
- Wood glue

Tools:

- Blades: crown, #7 reverse-tooth, such as Mach Speed; brim, #2 reverse-tooth
- Sanders: belt, disc, flap
- Drill and bit: $\frac{1}{8}$ " (3mm)-diameter
- Hole saw (optional): $2\frac{1}{4}$ " (57mm)-diameter

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

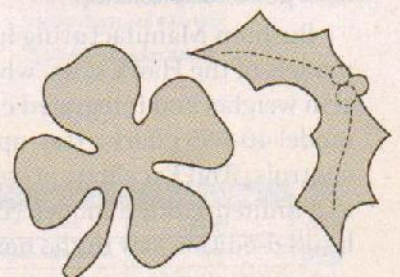
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Top hat patterns



Albert Baggetta is a retired English teacher and musician who lives in Agawam, Mass. He now spends some of his time creating and cutting scroll saw patterns using his DeWalt and Excalibur 21 scroll saws. To see more of his patterns, visit Al's web page, baggetta.com/pebooks/puzzle_patterns.htm.



Scroll Saw Buyer's Guide

Looking for a new saw?
Check out the features of
today's most popular models

By Bob Duncan

Scroll saw manufacturers have introduced some nice new models and features over the past year. If you have been thinking about upgrading your saw, it's a good time to shop.

Bushton Manufacturing has introduced new models of the Hawk saws, which feature reduced arm weights and integrated custom motors. Delta's model 40-695 offers a stay-up arm and streamlined controls. And Excalibur presents a new 16" saw as well as a limited-edition model. (Look for a review of the limited-edition saw in the next issue of *SSW&C*.)

We're focusing on intermediate and advanced-level saws with features that appeal to most scrollers. If you're looking for information on entry-level saws or detailed explanations of various features, please see our comprehensive 2010 Buyer's Guide on our website, www.scrollsawer.com.

Special thanks to our authors and test cutters for sharing their thoughts on important saw features. Everyone is looking for something different—think about your project preferences, cutting style, and budget, and then have fun test-driving new scroll saws.

Under \$200

Porter Cable PCB370SS—\$190



- 16" throat depth, cuts wood up to 2" thick
- Toolless blade change, accepts pinless blades
- Speed control in front
- Includes light and stand
- Table-tilt indicator on top of table

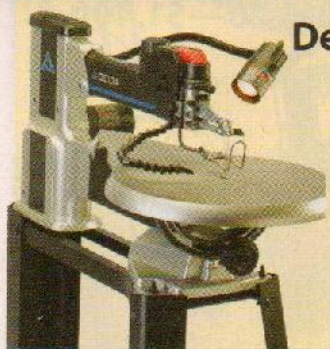
www.portercable.com 888-848-5175

“If a saw will not accept plain-end blades, with easy-to-use toolless blade holders, scroll sawing can be more of a frustration than a fascination.”

—Dale Helgerson

\$201 to \$600

Delta 40-695—\$599



- 20" throat depth, cuts wood up to 2" thick
- Toolless blade change, accepts pinless blade
- Medium/low vibration
- Light and stand included

www.deltamachinery.com 800-223-7278

DeWalt 788—\$549-\$569



- 20" throat depth, cuts wood up to 2" thick
- Toolless blade change, accepts pinless blades
- Speed control in front

www.dewalt.com 800-433-9258

\$601 to \$1,250

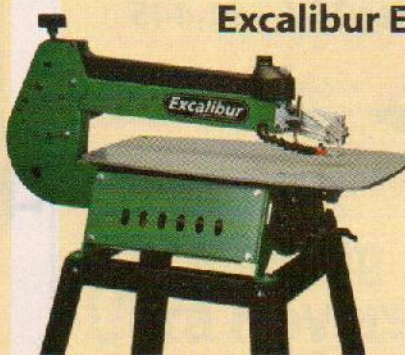
Excalibur EX16—\$811



- 16" throat depth, cuts wood up to 2" thick
- Toolless blade change, accepts pinless blades
- Speed control in front
- Table stays flat, but saw arm tilts

www.seyco.com 800-462-3353

Excalibur EX21—\$1,047



- 21" throat depth, cuts wood up to 2" thick
- Toolless blade change, accepts pinless blades
- Speed control in front
- Table stays flat, but saw arm tilts

www.seyco.com 800-462-3353

Hawk BM-20—\$1,200



- 20" throat depth, cuts wood up to 2 1/4" thick
- Toolless blade change, accepts pinless blades
- Speed control on right

www.bushtonmanufacturing.com 620-562-3557

Features for Different Types of Scrolling

For Fretwork

- Ability to top feed
- Toolless blade change
- Easy to change saw speed
- Zero-clearance insert

For Intarsia

- Ability to cut thick wood
- Easy to adjust table tilt
- Powerful motor

For Bowls and Baskets

- Easy to adjust table tilt
- Easy to adjust tension
- Easy to change saw speed

For Inlay and Marquetry

- Ability to top feed
- Ability to cut thick wood
- Easy to adjust table tilt

\$1,251 & higher



Eclipse—\$1,750

- 21" throat depth, cuts wood up to 2¼" thick
- Tool-assisted blade change, accepts pinless blades
- Speed control in front

www.eclipsesaw.com 804-779-2478

“For someone like me, with limited hand strength, a tool to change blades helps me get the clamp tight enough.”

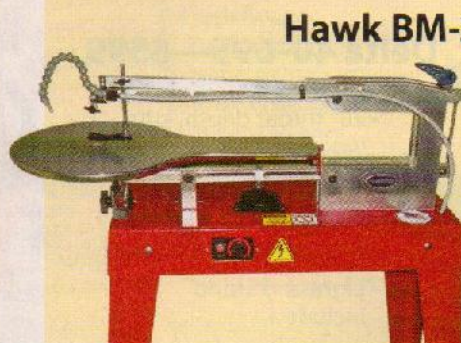
— Carole Rothman



Excalibur EX30—\$1,391

- 30" throat depth, cuts wood up to 2" thick
- Toolless blade change, accepts pinless blades
- Speed control in front
- Table stays flat, but saw arm tilts

www.seyco.com 800-462-3353



Hawk BM-26—\$1,400

- 26" throat depth, cuts wood up to 2¼" thick
- Toolless blade change, accepts pinless blades
- Speed control on right

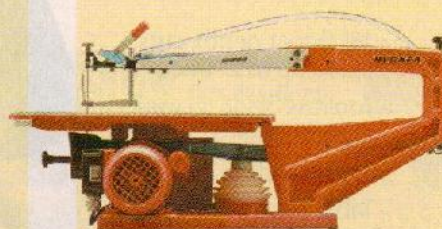
www.bushtonmanufacturing.com 620-562-3557



Hegner 18V—\$1,445

- 18" throat depth, cuts wood up to 2⅝" thick
- Tool-assisted blade change, accepts pinless blades
- Speed control in front

www.advmachinery.com 800-727-6553



Hegner 22V—\$1,645

- 22" throat depth, cuts wood up to 2⅝" thick
- Tool-assisted blade change, accepts pinless blades
- Speed control in front

www.advmachinery.com 800-727-6553

Scroll Saw Features

- **Throat Depth:** The horizontal distance from the blade to the back of the saw arm determines the size of project the saw can cut.
- **Depth of Cut:** The vertical distance between the table and the arm of the saw at its lowest determines the thickness of the wood a saw can cut.
- **Vibration:** A saw with excess vibration is uncomfortable and unpleasant to use.
- **Toolless Blade Change:** Thumbscrews are convenient, but those with limited strength may prefer to use a tool system.
- **Table Size:** The larger the table, the larger the project it can support. A saw with a small table can be outfitted with an auxiliary table to accommodate large projects.
- **Top Feed:** Feed direction is a matter of preference and experience. However, many fretwork artists think it is easier to feed the blade through the project from the top.
- **Speed Control Location:** If you adjust the blade speed often, a conveniently placed control is important. Pay special attention to the location if you are left-handed.
- **Built-in Light:** Light is necessary for successful scrolling; a built-in light is convenient.

Scroll Saw Quick Comparison Chart

Manufacturer	Model	Price	Throat Depth	Depth of Cut	Toolless Blade Change	Top Feed	Table Size	Speed Control Location	Vibration*	Built-In Light	Quick Release Blade Tensioner	Table Tilt	Stand Included
Under \$200													
Porter Cable		\$190	16"	2"	Yes	No	12¼" x 18½"	Front	3	Yes	Yes	45° both	Yes
\$201 to \$600													
Delta	40-695	\$599	20"	2"	Yes	Yes	16" x 24"	Front	2	Yes	Yes	45° both	Yes
DeWalt	DW788	\$549 to \$569	20"	2"	Yes	Yes	16" x 24"	Front	2	No	Yes	45° both	No
\$601 to \$1,250													
Excalibur	EX16	\$811	16"	2"	Yes	Yes	12" x 18½"	Front	1	No	Yes	45° both (saw arm)	Yes
Excalibur	EX21	\$1,047	21"	2"	Yes	Yes	13½" x 23½"	Front	1	No	Yes	45° both (saw arm)	Yes
Hawk	BM-20	\$1,200	20"	2¼"	Yes	Yes	13½" x 24"	Right	1	No	Yes	45° both	Yes
\$1,251 and higher													
Eclipse		\$1,750	21"	2¼"	No	No	15½" x 20"	Front	1	Yes	Yes	45° both	Yes
Excalibur	EX30	\$1,391	30"	2"	Yes	Yes	14" x 32½"	Front	NT	No	Yes	45° both (saw arm)	Yes
Hawk	BM-26	\$1,400	26"	2¼"	Yes	Yes	13½" x 24"	Right	NT	No	Yes	45° both	Yes
Hegner	18v	\$1,445	18"	2⅝"	No	No	9" x 17"	Front	1	No	Yes	45° left, 12° right	Yes
Hegner	22v	\$1,645	22"	2⅝"	No	No	9" x 17"	Front	NT	No	Yes	45° left, 12° right	Yes

*Vibration: 1 = low, 2 = medium/low, 3 = medium, 4 = medium/high, 5 = high, NT = not tested

ON THE WEB See 2010's comprehensive Buyer's Guide for more info.
www.scrollsawer.com

- **Quick Release Blade Tensioner:** The position and ease of use of the blade tension system affects your blade change speed.
- **Table Tilt:** If your favorite projects, like inlay, require angled cutting, the ease with which the table tilts is important.
- **Stand Included:** Using the stand designed for a particular saw will assure correct fit and stability while reducing vibration. Buying it with the saw saves time and money.
- **Price:** Buy the best saw for your needs and budget. There is no right saw, just the right saw for you.

“In my saw, top and bottom blade feeding capability is a must!”

– Rolf Beuttenmuller

Choosing the Right Blade

Simple guidelines for matching
the blade to the pattern and wood

By Bob Duncan

D A H B H B B G A G G B B

You can feel your blood pressure rising as the blades keep snapping while you cut. It's equally frustrating when you try to make tight turns in a small fret, but the blade won't turn fast enough. You know proper blade choice is the solution, but blades come in many sizes, shapes, and tooth configurations; how do you pick the right one?

Conventional wisdom has always suggested trial and error. And everyone is willing to share his or her favorite blade or favorite manufacturer. Instead of relying on guessing or gossip, use these general guidelines to help you to successfully select a blade without trying dozens of sizes, brands, and configurations.

To start, there are two main types of blades: plain-end and pin-end. Most saws, except a few entry-level models, use plain-end blades. Pin-end blades don't come in small sizes and the $\frac{3}{16}$ " (5mm)-diameter blade-entry hole they require is often larger than the frets you want to cut.

It's best to buy blades from local or online scroll saw suppliers; there are too many to list here, but you'll find them in every issue of the magazine. Scroll saw suppliers stock a wider variety of blades than standard hardware stores do, and blades that cost \$.41 at the hardware store are only \$.20 from a scroll saw supplier. I buy blades by the gross (12 dozen) because I like having enough to last awhile. After all, your work stops when you run out of blades.

Can you identify these blades and their uses? Keep reading to find the answers, plus a helpful chart to hang in your workshop.

Blade Size

Some manufacturers list the width and thickness of the blade, but most use the semi-standard number system.

- **Use larger blades (higher numbers) as the thickness or the density (hardness) of the wood increases.**

My rule of thumb is to use a #5 or #7 blade for $\frac{3}{4}$ " (19mm) to 1" (25mm)-thick medium-hard wood (such as cherry, walnut, or maple). Many scrollers, including test cutter Rolf Beuttenmuller, use the smallest blade they can. With my cutting style, I usually use the largest blade possible, but seldom larger than a #9.

- **Larger blades (#9 and up) are more durable.** They are also less likely to break as you apply pressure, and they cut faster. Large blades are mandatory for especially thick or hard wood. I once cut a puzzle from 1" (25mm)-thick hickory using #12 blades. I still broke a lot of blades, but fewer than if I had used a smaller blade.

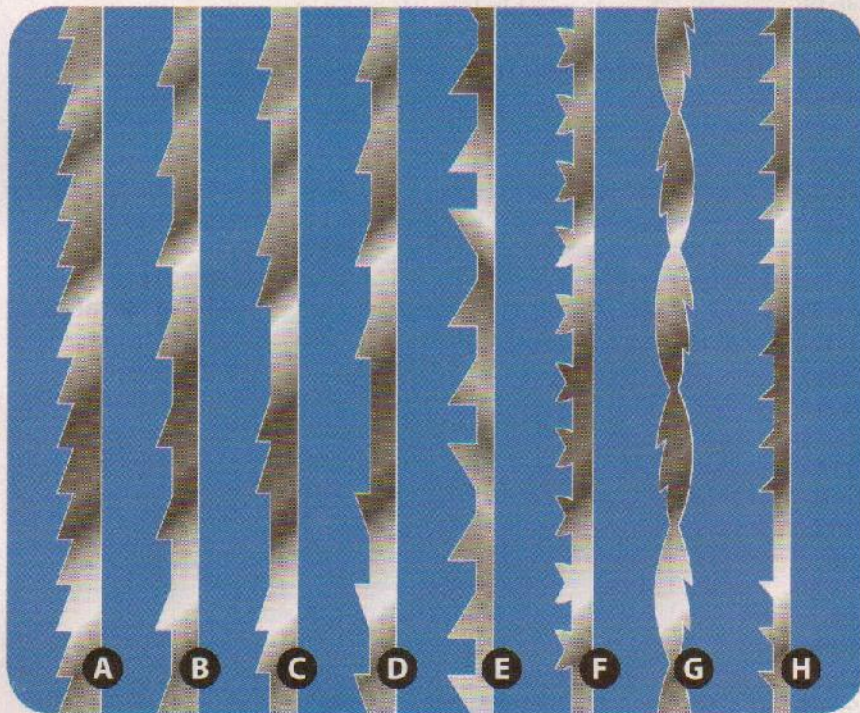
When considering large blades, it can be difficult to choose between a #9 and a #12 blade. Not every tooth configuration comes in a #12, so that may help you decide. I usually don't go to a #12 unless I'm cutting wood that is either as thick as my saw can handle or extremely hard (such as hickory).

- **Use smaller blades (#3 and smaller) for thin wood.**

These blades cut more slowly, which gives you additional control when cutting thin wood. While I seldom cut unstacked $\frac{1}{8}$ " (3mm)-thick wood, if I do, I use a #2/0 blade. That is the smallest size I use for wood. Puzzle cutters sometimes use smaller blades to make their tight turns, but for general scrolling, a #2/0 blade is small enough. Choose the blade that will allow you to cut the smallest frets without breaking every few cuts.

• **If you are stack cutting, choose a blade based on the thickness of the stack.** If you cut eight 1/8" (3mm)-thick blanks at once (giving you an effective thickness of 1" or 25mm), use a #5 or #7 blade. If you're cutting four 1/8" (3mm)-thick blanks, use a #2 or #3 blade.

• **Consider the intricacy of the cuts.** Larger blades will not cut tight corners or fit into small frets. When cutting intricate projects, choose the smallest blade that will cut the thickness of wood. Awhile back I was cutting an intricate project featuring delicate trees in 3/4" (19mm)-thick poplar, and at the time, I only had #5 and #2/0 blades. The #5 blades were too large to cut the trees, so I used the #2/0. They were more suited to the intricate cuts, but actually too small—I broke most of my blades before I finished cutting the project. A #1 or #3 blade would have been my top choice in this situation.



Tooth Configuration

Not only do blades come in different sizes, but the cutting teeth come in different configurations. Some manufacturers indicate this as the teeth per inch (TPI), while other manufacturers use more specific terms. The TPI method can be a bit deceiving because it also depends on the width and thickness of the blade. A #2/0 regular-tooth blade would have more TPI than a #2/0 skip-tooth blade (see above), but a #1 regular-tooth blade may have a similar number of teeth to the #2/0 skip-tooth blade.

A Regular-tooth blades have teeth evenly spaced along the blade. Where one tooth stops, another tooth starts. This was once the most common tooth configuration, but manufacturers have created several variations that work better when cutting wood.

B Skip-tooth blades are the most common configuration. Instead of having one tooth right next to the last, they skip one tooth, leaving an open space between the teeth. The space helps clear sawdust and helps the blade cut faster. But, skip-tooth blades produce a slightly rougher cut surface than do regular-tooth blades.

C Double-tooth blades are similar to skip-tooth blades in that there are spaces between the teeth—two teeth are back to back, and then one tooth is skipped. This produces a slightly smoother cut than the skip tooth, but it doesn't cut quite as fast.

D Reverse-tooth blades usually follow the skip-tooth or double-tooth configuration, but with the bottom couple of teeth pointed in the opposite direction from the rest. These teeth cut as the saw blade travels upward. Where the skip-tooth, double-tooth, and regular-tooth blades splinter the bottom of the blank slightly, reverse-tooth blades remove these splinters. Reverse-tooth blades produce a cleaner bottom cut than other blades, but they don't clear as much sawdust. The sawdust can slow the cutting and possibly heat the blade, making it more likely to break or scorch the wood.

E Two-way cut blades are similar to reverse-tooth blades—for every two teeth that point downward, one tooth points upward. This slows cutting even more, but produces a much smoother cut.

F Crown-tooth blades have one tooth pointing up connected to each tooth pointing down, giving the teeth a crown-like shape. The blade cuts on both the upstroke and the downstroke of the saw. This configuration produces a smooth cut but is the slowest of all.

G Spiral blades are essentially flat blades twisted into a spiral. Flat blades cut only from the front, but spiral blades cut in every direction—from the front, back, and side to side. This ability is useful for projects that are too long to spin on the saw table without hitting the back of the the saw arm. It is difficult to cut straight lines with these blades. I use them to cut fretwork portraits, which have few straight lines. Using a spiral blade takes practice; they can be difficult to control because they cut everything they touch. The kerf (saw cut) of a spiral blade is wider than the kerf of the same size of flat blade. Spiral blades come in skip-tooth and reverse-tooth configurations.

H Premium blades are sometimes made of different types of steel and have different tooth shapes to cut hard, dense wood quickly (see Sidebar, page 72).

Using Blades

No matter what blade you are using, these simple tips will help you get the best performance from it.

- **Determine which end is the top.** If you're using a crown-tooth blade, it isn't important because these blades cut in either direction. For all other blades, the majority of the teeth should point down. Determine the tooth direction by running your thumbnail along the middle of the blade. It catches more in the direction the teeth are pointing, and it feels rougher if you run your finger in that direction, almost like coarse sandpaper. Once I determine the blade direction on one blade, I use a dab of cheap red nail polish to mark the top ends of the other blades in that pack.

- **Prevent blade slippage.** Manufacturers coat blades in light oil to keep them from rusting during transit. The oil is one of the top reasons a blade slips. I keep a scrap of sandpaper near my saw and rub both ends of the blade with it before installing the blade in the saw. This removes the oil, as well as the nail polish I use to mark the top.

Blades also slip because, over time, the set screws that hold them in place are polished smooth by the action of the blade and stop gripping. A bit of sandpaper will also remove this polish and give the screws a better grip.

- **Install the blade.** When installing a blade, I usually fasten the top clamp first, especially if I'm using a saw that allows me to top feed. The top arm on these saws (such as the Delta, DeWalt, Excalibur, and Hawk) moves up enough that you can lift the bottom of the blade above the work piece. This isn't a big deal for most scrolling, but it's much easier to feed a blade down through a hole when cutting fretwork than it is to feed it up from the bottom. Once the blade is installed in the top holder, feed it down through the hole in the saw table and clamp it at the bottom.

- **Apply tension.** Each saw has a different method to tension the blade, but what it comes down to is making the blade just the right tightness. Some scrollers pluck or tap the blade and listen for a high C note, but I'm tone deaf. I tighten the blade until it barely flexes from side to side. If the blade is too tight and you press too hard while sawing, the blade can break. But if the blade is too loose and catches in the wood as it flexes from side to side, it's also likely to break. Remember, tight is good, but too tight is bad.

- **Prevent friction.** Blades also break because they heat up, lose their temper, and become fragile. Friction created during the cutting process heats blades, so lubricate the blade by applying a little beeswax to it or by covering the blanks with tape (the lubricant that keeps the tape from sticking to itself will also lubricate the blade).

Dull blades also cause friction. All cutting dulls the blade, but cutting dense wood accelerates the process. The easiest ways to tell that the blade is getting dull are that you need to push harder for the blade to cut or you notice that the saw is cutting more slowly. This is a gradual

process, so you may not realize the blade is dull until it breaks. If you do notice slowing or difficulty pushing, replace the blade. It is normal to use several blades per project; large projects or those made from thick or dense wood will require even more blades.

A blade burning the wood is also a good indication that it is getting dull and should be replaced, unless you're cutting a resinous wood, such as cherry, which will always burn if you don't lubricate the blade with tape or wax.

Cutting Other Materials

Most scrollers cut wood, but you can cut a variety of materials on a scroll saw, including acrylic plastic, solid-surface material such as Corian, and even thin metal. For the most part, these materials can be cut with ordinary blades.

- **Acrylic plastic** tends to melt back together if you don't lubricate your blade with tape or beeswax, but you can use any blade to cut it.

- **Solid-surface material** is pretty dense, so I suggest using a premium blade. Use the largest you can for the project.

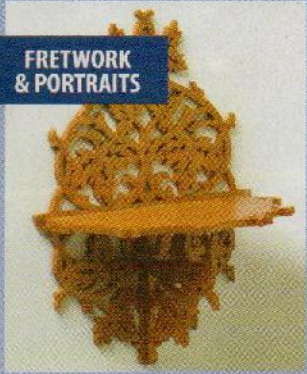
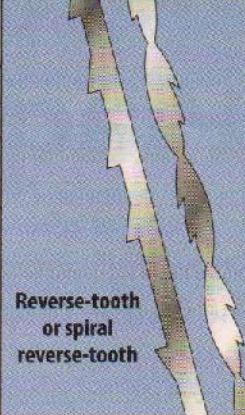

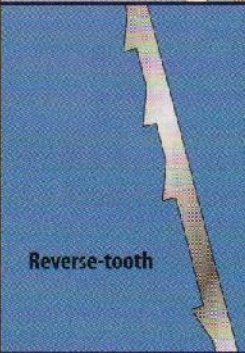

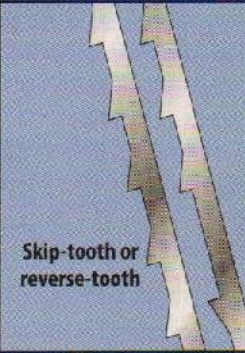

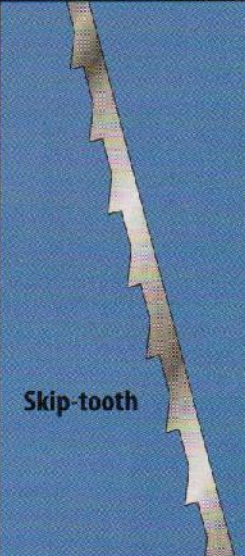

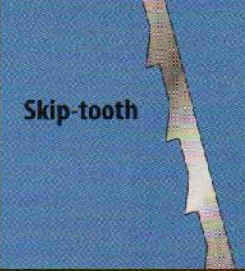
- **Thin metal** may scratch or be scratched during cutting. To protect the saw table as well as the surface of the metal, sandwich thin metal between scrap plywood.

- **Glass** can also be cut with a scroll saw. This requires special diamond-impregnated blades. You also need to set up a system to drip water onto the area where you're cutting; if the glass gets too hot, it will shatter.

Specialty Blades

Premium blades have different tooth shapes that give them a more aggressive cut and help them cut through dense woods quickly; they may also be made from special materials. For example, Olson's PGT (Precision Ground Tooth) blades are ground from high-carbon steel rather than milled from steel that is later hardened, like standard blades. All of the premium blades cut quickly, so I would not use them for thin or soft wood, but they make cutting thick, dense wood much less of a chore. Note, however, that they are slightly more expensive than standard blades. Other premium blades include Olson's Mach Speed, Flying Dutchman's Ultra Reverse and Polar, and Ben's Scroll Saw's Pégas Modified Geometry and Speed Cut Reverse.

Never Fail Blade Chart

Project	Material*	Thickness** (or overall thickness of stack)	Blade Size	Tooth Configuration
 <p>FRETWORK & PORTRAITS</p>	Hardwood, softwood, plywood	¼" or thinner	#2/0 to #1	 <p>Reverse-tooth or spiral reverse-tooth</p>
	Hardwood, softwood, plywood	¼" to ½"	#1 to #2	
	Hardwood (less dense), softwood, plywood	½" to ¾"	#3 to #4	
	Hardwood (dense)	½" to ¾"	#4 to #5	
	Hardwood (less dense), softwood, plywood	¾" to 1"	#4 to #6	
	Hardwood (dense)	¾" to 1"	#5 to #7	
 <p>PUZZLE</p>	Hardwood, softwood, plywood	¼" or thinner	#2/0 to #1	 <p>Reverse-tooth</p>
	Hardwood, softwood, plywood	¼" to ½"	#1 to #2	
	Hardwood, softwood, plywood	½" to ¾"	#3 to #4	
	Hardwood (less dense), softwood	¾" to 1"	#4 to #6	
	Hardwood (dense)	¾" to 1"	#5 to #7	
 <p>GENERAL</p>	Hardwood, softwood, plywood	¼" or thinner	#2/0 to #1	 <p>Skip-tooth or reverse-tooth</p>
	Hardwood, softwood, plywood	¼" to ½"	#1 to #2	
	Hardwood, softwood, plywood	½" to ¾"	#3 to #4	
	Hardwood (less dense), softwood, plywood	¾" to 1"	#4 to #6	
	Hardwood (dense)	¾" to 1"	#5 to #7	
 <p>COMPOUND</p>	Hardwood (less dense), softwood	¾" (19mm) to 1"	#4 to #7	 <p>Skip-tooth</p>
	Hardwood (dense)	¾" to 1"	#5 to #7	
	Hardwood (less dense), softwood	1" and thicker	#7	
	Hardwood (dense)	1" and thicker	#9	
 <p>INTARSIA & SEGMENTATION</p>	Hardwood (less dense), softwood	½" to 1"	#3 to #6	 <p>Skip-tooth</p>
	Hardwood (dense)	½" to 1"	#5 to #7	
	Hardwood (less dense), softwood	1" and thicker	#5 to #7	
	Hardwood (dense)	1" and thicker	#7 to #9	

* Dense hardwood includes species such as maple or oak. Less dense hardwood includes species such as cherry or walnut.

** ¼" = 6mm; ½" = 13mm; ¾" = 19mm; 1" = 25mm

Beautiful Butterfly Plaques

Stunning seasonal design brings the feeling of spring inside

By Alison Tanner
Cut by Dale Helgerson

Butterflies are colorful reminders of spring and symbols of the rebirth of the spirit. These fretwork butterfly plaques look great framed or hung directly on the wall. You could also stack watercolor paper or card stock between thin plywood, cut the design, and paint the paper cutouts with watercolors or acrylics. Or, trace the individual butterflies and cut them separately from wood or plastic to create wall accents or a colorful mobile.

Materials & Tools

Materials:

- Baltic birch plywood, $\frac{1}{8}$ " (3mm) to $\frac{1}{4}$ " (6mm)-thick; 6 $\frac{3}{4}$ " x 8 $\frac{1}{2}$ " (171mm x 216mm)
- Spray adhesive
- Sandpaper
- Watercolor paper or card stock (optional)
- Finish
- Watercolors and/or acrylic paint (optional)

Tools:

- Blades: #1 or #3 reverse-tooth
- Drill with assorted small bits

Patterns for the **BEAUTIFUL BUTTERFLY PLAQUES** are in the pattern pullout section.

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



Alison Tanner began cutting paper at the age of 8, inspired by a visit to the home of fairy-tale writer Hans Christian Andersen in Denmark. Alison is the owner/creator of Papercuttings by Alison, which carries the largest variety of patterns and supplies for the scissorist. For more of her work, visit www.papercuttingsbyalison.com.





**BEST
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DESIGN CONTEST
2013**

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you'd like to share with the world?*

Calling All Scrollers

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Dust off your saw table and dig up a pencil, because it's time for the 2013 *Scroll Saw Woodworking & Crafts* Best Project Design Contest!

We are accepting original entries in eight categories (at right). Up to 10 designs in each category will be posted on our website to compete for the People's Choice and Best in Contest awards. And every entry will be considered for a publishing contract! Visit our website or follow us on Facebook for more information.

2013 Categories:

- Compound
- Intarsia and Segmentation
- Fretwork (Traditional)
- Fretwork (Portrait)
- Puzzles
- Toys and Gizmos
- Jewelry
- General Scrolling

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Prizes for entering!

- Four entrants will be randomly chosen to win a free one-year subscription (or renewal).

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- The People's Choice winners and Best in Contest runners-up will each receive an award ribbon, a contest T-shirt, and a \$50 Fox Books gift certificate.
- The Best in Contest winner will also receive \$100 cash!



*E-mail your entries now to:
editors@scrollsawer.com
Entry deadline is March 1.*

HOW TO ENTER:

- Projects must be your original design and cannot be altered versions of existing patterns by another designer. By entering, you verify that your entry is your own creation.
- You may enter as many projects as you like in as many categories as you like. Each individual entry must be submitted in a separate e-mail or on a separate page.
- Please visit our website for all official rules and guidelines: www.scrollsawer.com. Or, call 1-800-457-9112 to request a copy.
- Submit the following information with each project: your name, the project name, the category, and a project description (wood, size, finish, techniques in addition to scrolling, and story/inspiration).
- Include no more than two (2) photos of each entry. We will not review more than two photos per entry. Digital photos must be high resolution (300 DPI at 4"x6").
- E-mail your entries to: editors@scrollsawer.com, or mail them to: *Scroll Saw Woodworking & Crafts*, Best Design Contest, 1970 Broad St., East Petersburg, PA 17520.

**SCROLLSAW
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& CRAFTS**

Victorian Fretwork Shelf

Sturdy leaf fretwork can display heavier collectibles

By John A. Nelson
Cut by Leldon Maxcy

Commemorate the first new leaves of spring with this lovely shelf. The flowing designs are forgiving for novice cutters, and the relatively low number of frets makes this a fast and easy project for all scrollers.

After you cut the brace, backing board, and shelf, carefully clamp the brace and shelf to the backing board. Drill pilot holes for small brads or wood screws through the backing board and into the shelf and brace. Remove the clamps, apply wood glue to the edges of the brace and shelf, and place them in position. Drive or screw the brads or screws into place, allow the glue to set for a few minutes, and then remove any glue squeeze-out. Allow the glue to dry and then apply a clear spray finish. Add a hanger to the backing board.



Materials & Tools

Materials:

- Cherry, ¼" (6mm)-thick: backing board, 10" x 12½" (254mm x 318mm); brace, 4½" x 5½" (114mm x 140mm); shelf, 5¼" x 10¼" (133mm x 260mm)
- Small brads or screws
- Wood glue
- Finish: clear spray
- Hanger

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

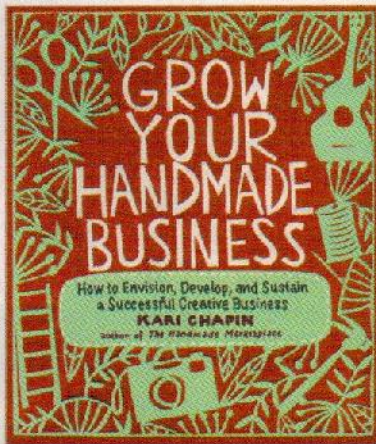
Tools:

- Blades: #1 reverse-tooth
- Screw driver or hammer
- Drill and assorted small bits
- Clamps

Patterns for the **VICTORIAN FRETWORK SHELF** are in the pattern pullout section.



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



Grow Your Handmade Business

How to Envision, Develop, and Sustain a Successful Creative Business

By Kari Chapin
Storey Publishing
ISBN 978-1-60342-989-4. \$16.95

Many people scroll to forget about work or take up woodworking after retiring from their careers. A few, though, start scrolling as a hobby and then start wondering if it's possible to sell their art. If you're thinking about going into business with your scrolled art or designs, these two books are useful resources.

Grow Your Handmade Business will help you decide whether you want a full-fledged business or simply to make your hobby pay for itself, and then create a plan to make it happen. Using her own extensive experience as well as that of many creative entrepreneurs, artist and marketing expert Kari Chapin will help you set goals, write a business plan, organize your workspace, nail down your budget, find financing, and understand marketing. She suggests asking for help when you need it, whether that means hiring employees, finding a mentor, or joining an association.

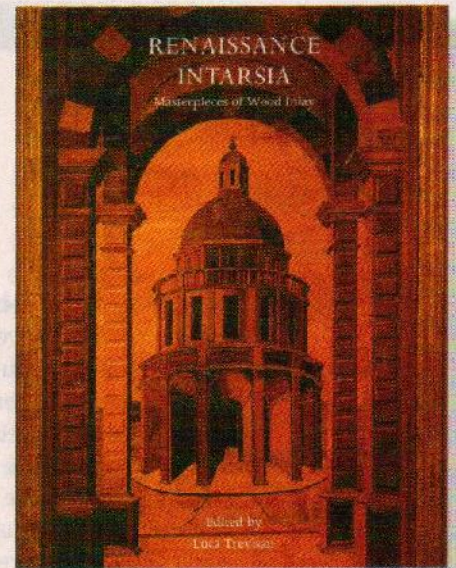


How to Price Crafts & Things You Make to Sell

Get Formulas, Examples and Strategies to Sell Retail or Wholesale, Online, at Fairs & Everywhere Else

By James Dillehay
Warm Snow Publishers
ISBN 978-0-9710684-7-6. \$12.95

For in-depth help on pricing your artwork, turn to *How to Price Crafts & Things You Make to Sell*. James Dillehay is an artist and gallery owner with extensive experience in pricing his own work and that of fellow artists. For example, he suggests convincing shoppers of the value of your work, which allows you to charge higher prices, by telling them it's handmade, calling attention to luxurious materials, using beautiful packaging, building inviting displays for craft fairs, and selling in sets. He emphasizes the importance of research—knowing your costs, customers, and competition.



Renaissance Intarsia

Masterpieces of Wood Inlay

By Luca Trevisan
Photography by Luca Sassi
Abbeville Press Inc.
ISBN 978-0-7892-1126-2. \$125

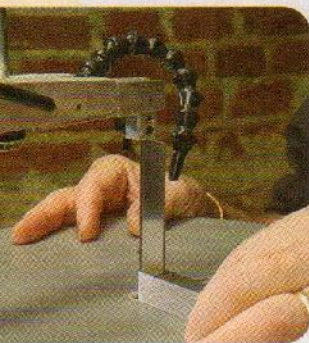
Intarsia enthusiasts will treasure this history of the art form, which focuses on the invention of intarsia in Italy and its prominence as a decorative art during the 15th and 16th centuries. Many early intarsia pieces show cityscapes and architectural elements; later artists created portraits, landscapes, still lifes, and even trompe l'oeil images. To modern eyes, this original intarsia looks more like textured segmentation rather than the deeply dimensional work we associate with the genre today, but the beauty of the wood pictures



and skill of the craftsmen are undeniable.

Still Life with Musical Instruments by Fra Giovanni da Verona, dates from 1504-05, and is in Siena, Italy.

To avoid repetitive instructions, this page is included in each issue to assist novice scrollers with basic scrolling techniques.



Squaring Your Table

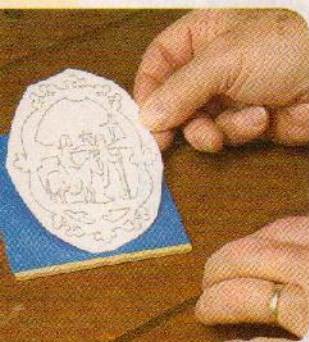
Most scroll saws have an adjustable table that allows you to make cuts at different angles. There are times when you want the saw set at an angle, but most cutting is done with the blade perpendicular to the table. If the table is even slightly off-square, the cuts will be angled. This interferes with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

The most common method for squaring a table uses a small metal square, or right angle tool. Set the square flat on the saw table against a blade that has been inserted and tensioned. Adjust the table to form a 90° angle to the blade.



The cutting-through method is also popular. Saw through a piece of scrap wood at least 3/4" (19mm) thick and check the angle of the cut using a square. Adjust the table until you get a perfectly square cut.

You can also use the kerf-test method. Take a 1 3/4" (44mm)-thick piece of scrap wood and cut about 1/16" (2mm) into it. Stop the saw, back the blade out, and spin the wood around to the back of the blade. If the blade slips easily into the kerf, the table is square. If it doesn't slide into the kerf, adjust the table and perform the test again until the blade slips in easily.



Attaching Patterns

Temporary-bond spray adhesive is the most common method used to attach patterns to stock. Photocopy the pattern. Spray the adhesive on the back of the copy of the pattern, wait a few seconds, and then press the pattern down onto the blank. Rubber cement or glue sticks work similarly.

You can also use graphite or carbon transfer paper. Place the pattern on the blank and slip a sheet of transfer paper

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

Stack Cutting

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

One way to attach blanks is with tape. Line all the layers up and wrap a layer of tape around the outside edge. You can also wrap the whole stack in tape for extra stability. Use masking tape, painter's tape, or clear packaging tape.

Hot-melt glue is another option. Glue the blanks together with a dot of hot-melt glue on each side.

You can also join pieces by driving brads or small nails into as many waste areas as you can. Cut off any overhanging nails as close to the surface as you can, and then sand them flush to avoid scratching or catching on the table.



Blade Tension

Before inserting a blade, completely remove the tension. Clamp both ends of the blade into the blade holders and adjust the tension. Push on the blade with your finger. It should flex no more than 1/8" (3mm) forward, backward, or side to side.

A blade that does not have enough tension will wander. It will also flex from side to side, making for irregular or angled cuts. If you press too hard on a loose blade, it will usually snap. A blade that has too much tension is more susceptible to breaking and tends to pull out of the blade holders. In general, it is better to make the blade too tight rather than too loose.

Blade-entry Holes

Some patterns have blade-entry holes marked. If the pattern doesn't, place the holes near a line to be cut to prolong the blade life, but don't place the hole on a curving line or inside corner (if possible). Drill the hole perpendicular to the blank. Use a drill press if you have one; otherwise, use a hand drill and make the holes as vertical as possible. Drill through the blank into scrap wood to prevent tear out on the back side of the blank. If you have the space, use a larger bit—it will make it easier to thread the blades through. For thin veining cuts, use the smallest bit the blade will fit through.



Removing Patterns

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

In our next issue...



Delicate inlay decorates the tops of these dainty boxes.



Spin the uniquely shaped gears and watch the shark chase the fish.



Fretwork dragonflies make graceful barrettes, magnets, and ornaments.

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Unit Plaques Honor Rescue Swimmers

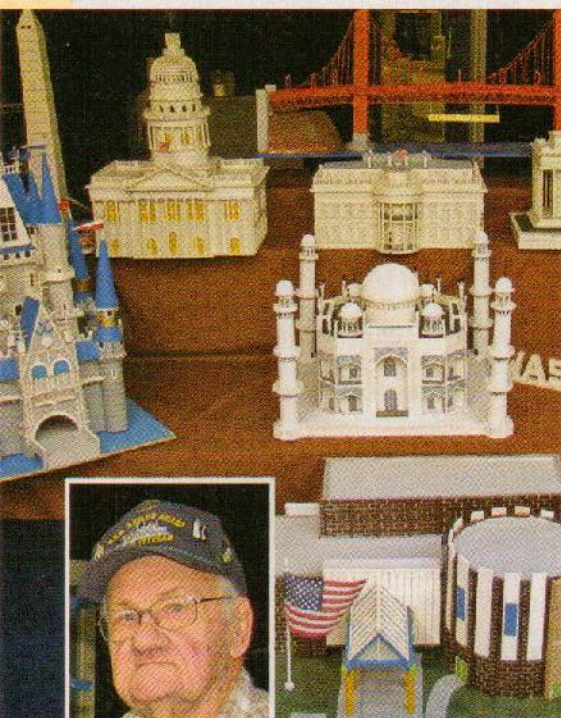
The San Diego Seaside Scrollers partnered with a Sea and Air Rescue division of the U.S. Navy to make squadron plaques for a helicopter sea combat unit (HSC-3). Based out of NAS North Island in Coronado, Calif., the unit trains all Pacific fleet helicopter control officers and landing signalmen. Every helicopter that flies out for rescue work must have highly trained HSC-3 swimmers on board. When someone leaves this tightly knit team of rescuers, it's an opportunity to recognize their valuable service.

"It has long been a Navy tradition for retirees to be given some kind of memento from fellow shipmates," said squadron member AWS1 Jason Blasé. "In our group we feel very strongly that a person who works as long and as hard as our unit does deserves a very special going-away tribute."

AWSC Dennis Byington (right) of Helicopter Sea Combat Unit presents departing squadron member AWS1 Shawn Cole with a fin plaque.

When Jason learned about the San Diego Seaside Scrollers, he contacted the club's president, Evie Aring, to see if they could help. The club members would cut and finish plaques in the shape of a fin—the symbol of rescue swimmers. "Our members were very excited about helping," said Evie. When completed, the 16 poplar plaques were presented to the squadron leader, who will decorate each plaque with official emblems, logos, and patches before awarding them to retiring air crewmen. Jason said, "It's a real morale booster, and we couldn't be happier about it."

Members of the Seaside Scrollers: (left to right) Evie Aring, Steve Eggerman, Gail Hempel, John Blasé, Jason Blasé, Judi Dow, Wayne Johnson, Mike Inacio, Ivan Yanev. Kneeling: Dan Mekus, Roy Vanderhook.



A Monumental Hobby

Anthony Adamovicz is all about perfection, down to the tiniest details. His miniature models of significant buildings, bridges, monuments, and ships reflect that determination. However, perfection doesn't come easily for the 87-year-old Brook Park, Ohio, woodworker, who is blind in one eye and suffers from severe arthritis in both knees, hips, and shoulders.

"I'll have to give this all up at some point, but for now I hold on to the railing for dear life and climb down those 14 steps to my workshop dozens of times each day," Anthony said.

The retired bus driver took up woodworking 25 years ago. He started with simple birdhouses and then began creating miniature models of famous structures. Using various types of wood, cardboard, matchsticks, and anything else he thinks might work, Anthony has recreated such magnificent structures as the Taj Mahal, the Eiffel Tower, the

U.S. Capitol, the Golden Gate Bridge, a miniature carousel, and the World War II T2 Navy oil tanker that he served on. "The only problem is trying to find an empty place to put them all," he said with a laugh.

Anthony builds his creations without using a pattern or measuring for scale. "I just look at a picture of what I want to make and then use my own best judgment," he explained. He crafts his works with a scroll saw, band saw, rotary tool, carving knife, and lots of sandpaper and glue. Anthony collects sturdy wood scraps, such as broken wooden crates from a local farmer's market, for his replicas.

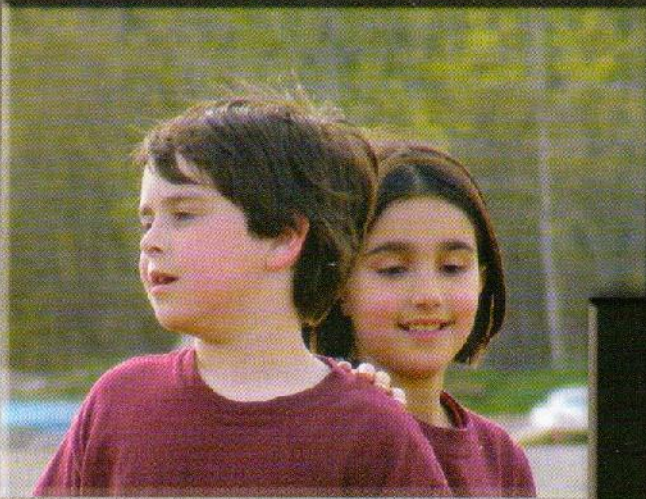
"I put as much detail into each piece as I possibly can because that's what people want," Anthony explained. "It takes a lot of extra time and work, but when I see how much they like it, I know it's all worth it."

For more information contact Anthony at 216-362-6336.



Anthony Adamovicz makes miniature versions of famous structures.

Photos by Gary Marken



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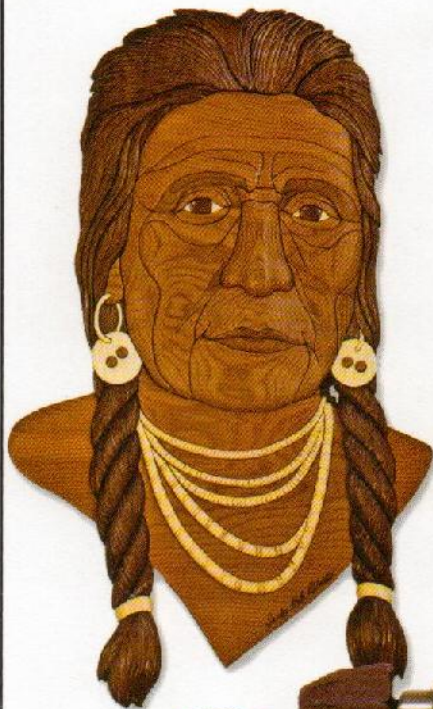
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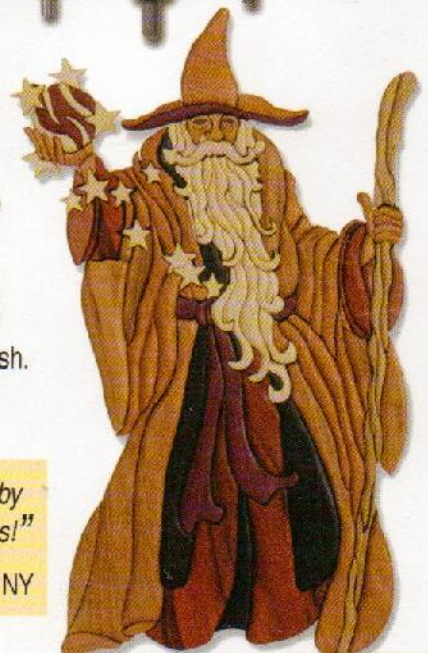


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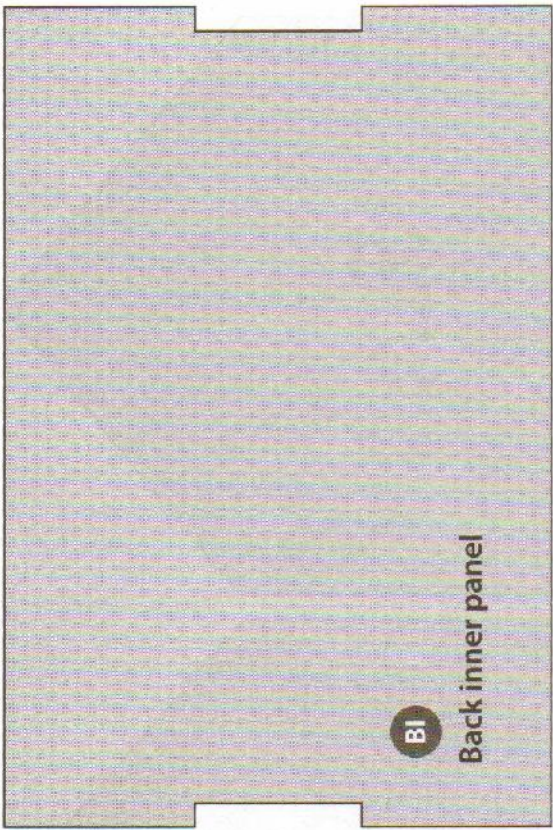
"Guinevere® cut the time it takes me to sand and finish each piece by about 25%. Guinevere® has also helped save the skin on my fingers!"

Peter Stein, Assistant Fire Chief, Grand Island, NY

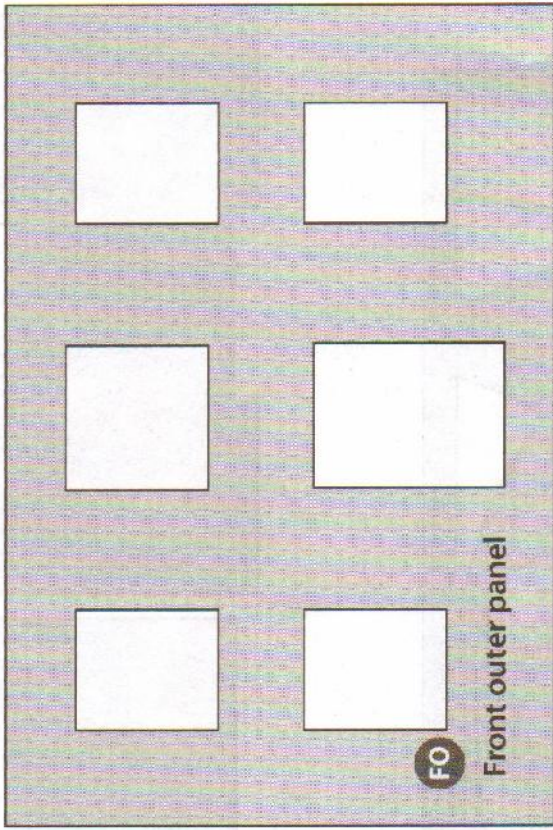


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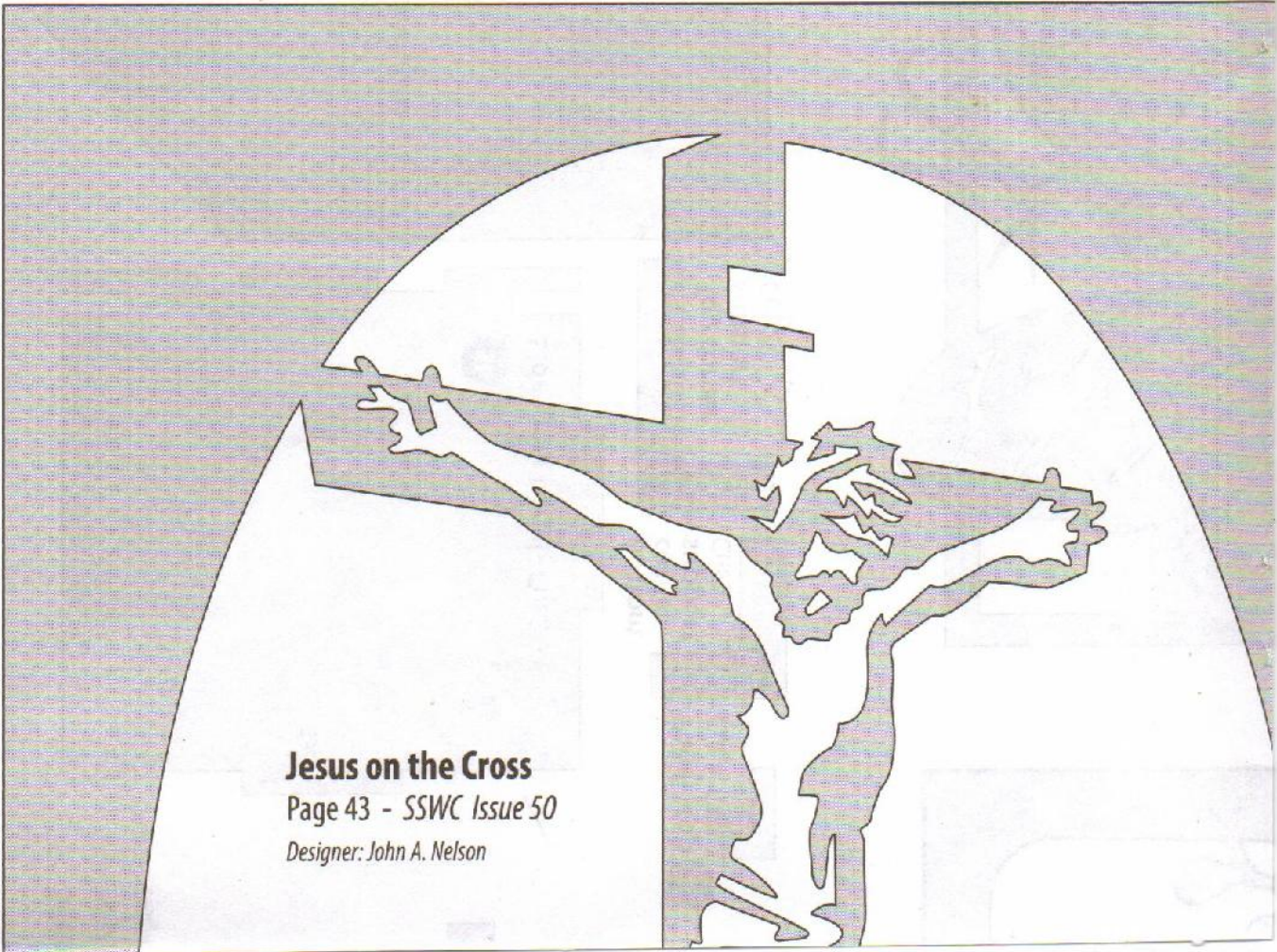
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Back inner panel



Front outer panel



Jesus on the Cross
Page 43 - *SSWC Issue 50*
Designer: John A. Nelson

BOI

Bottom inner panel

FI

Front inner panel

Secret Puzzle Box

Page 48 - SSWC Issue 50

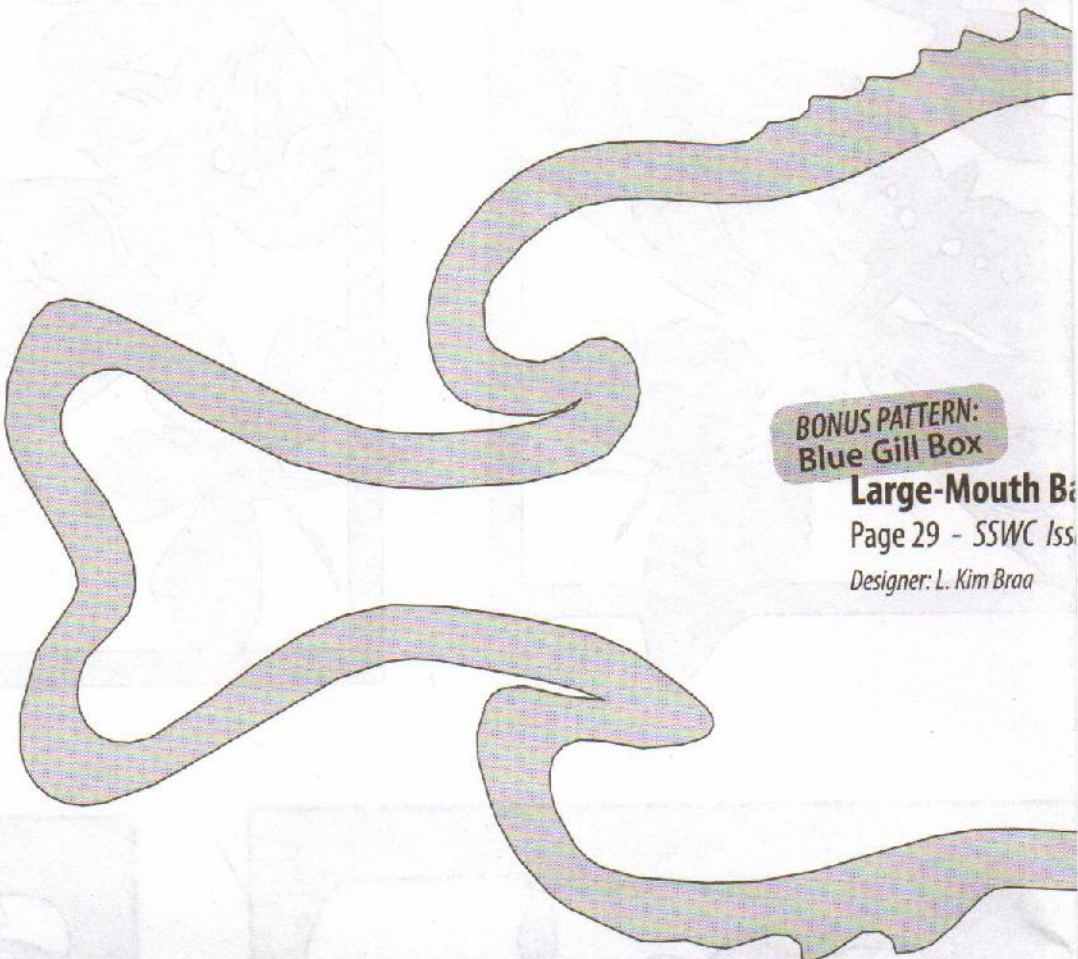
Designer: Bruce Viney

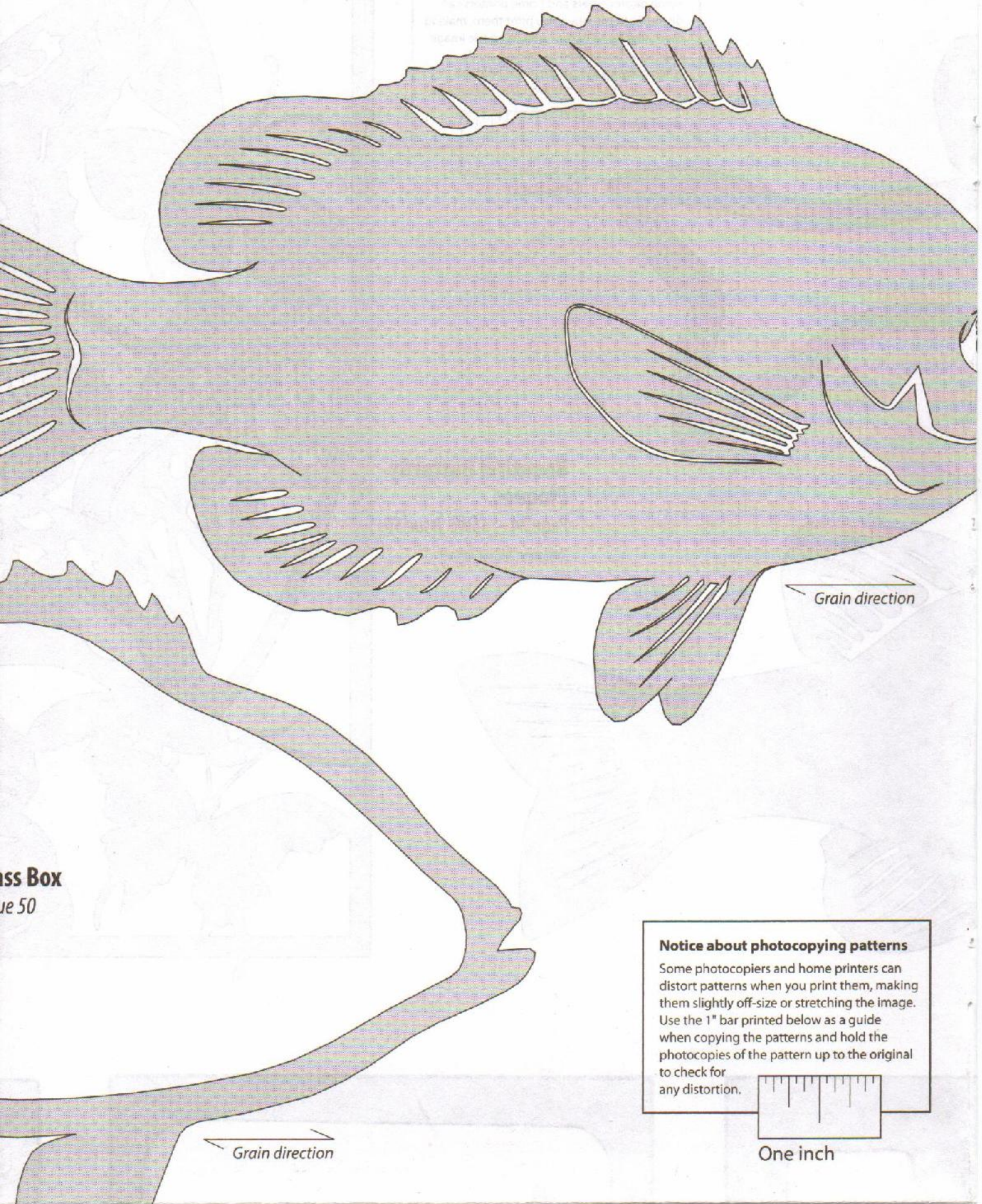
BONUS PATTERN:
Blue Gill Box

Large-Mouth Box

Page 29 - SSWC Issue 49

Designer: L. Kim Braa





Grain direction →

← Grain direction

ass Box
e 50

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.



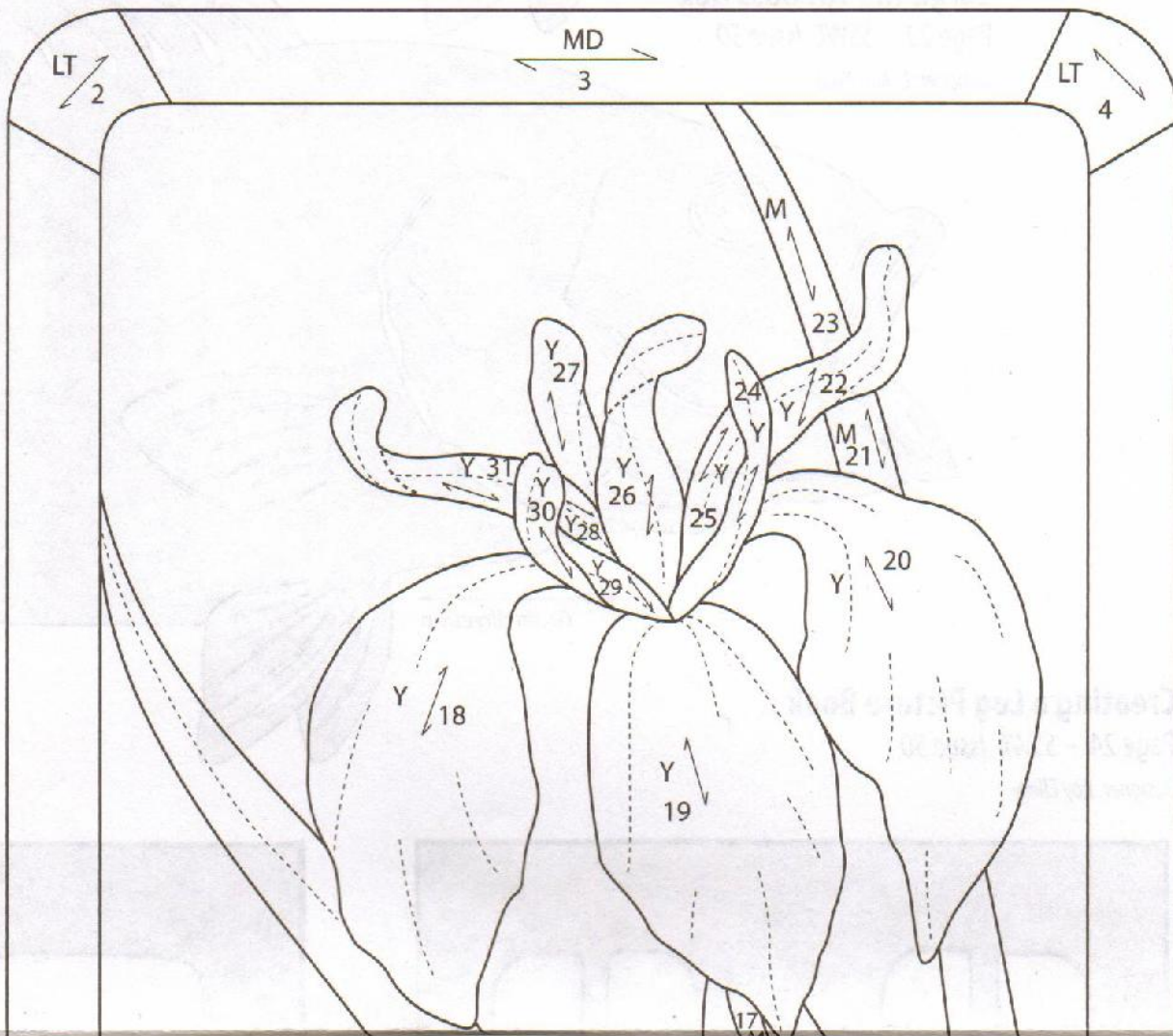
One inch

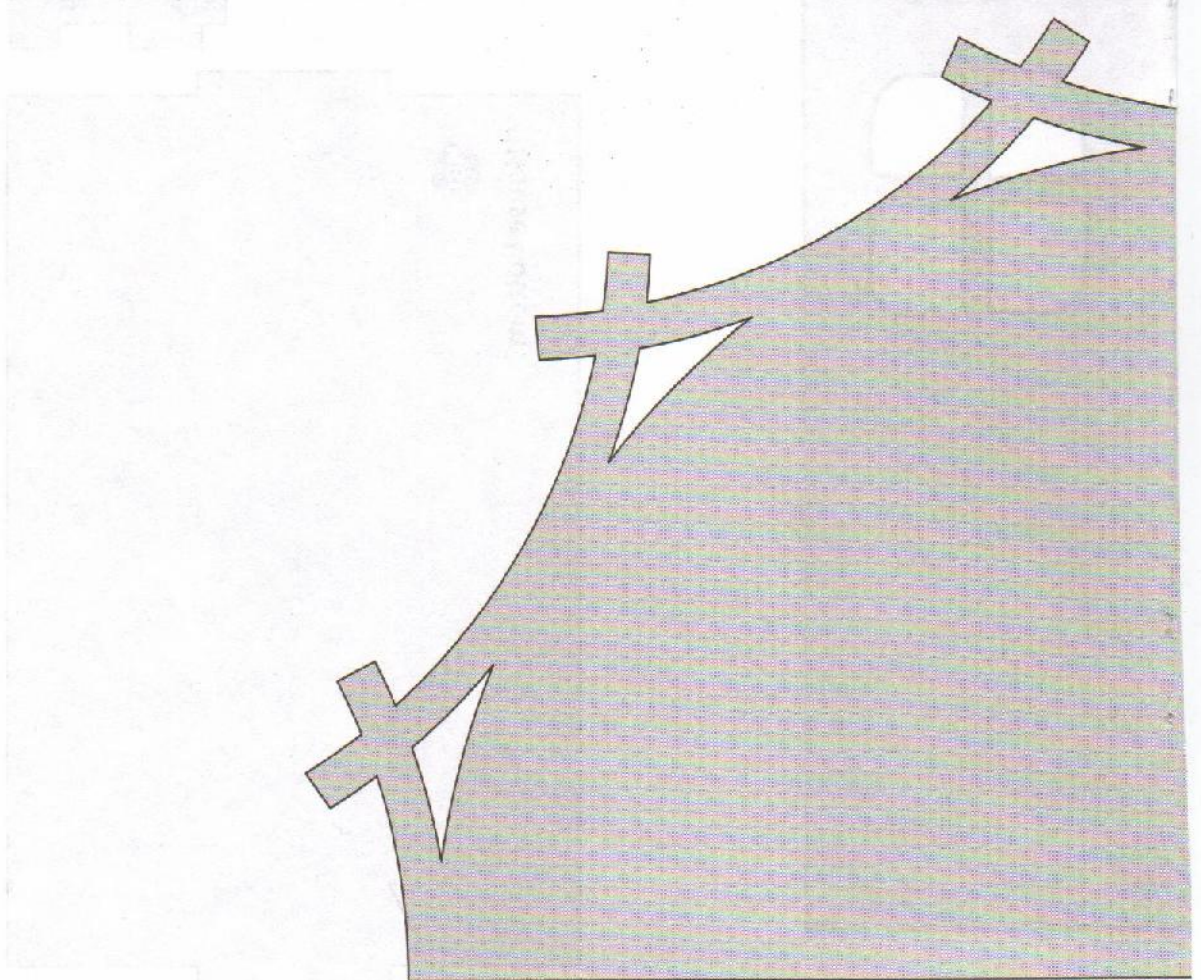
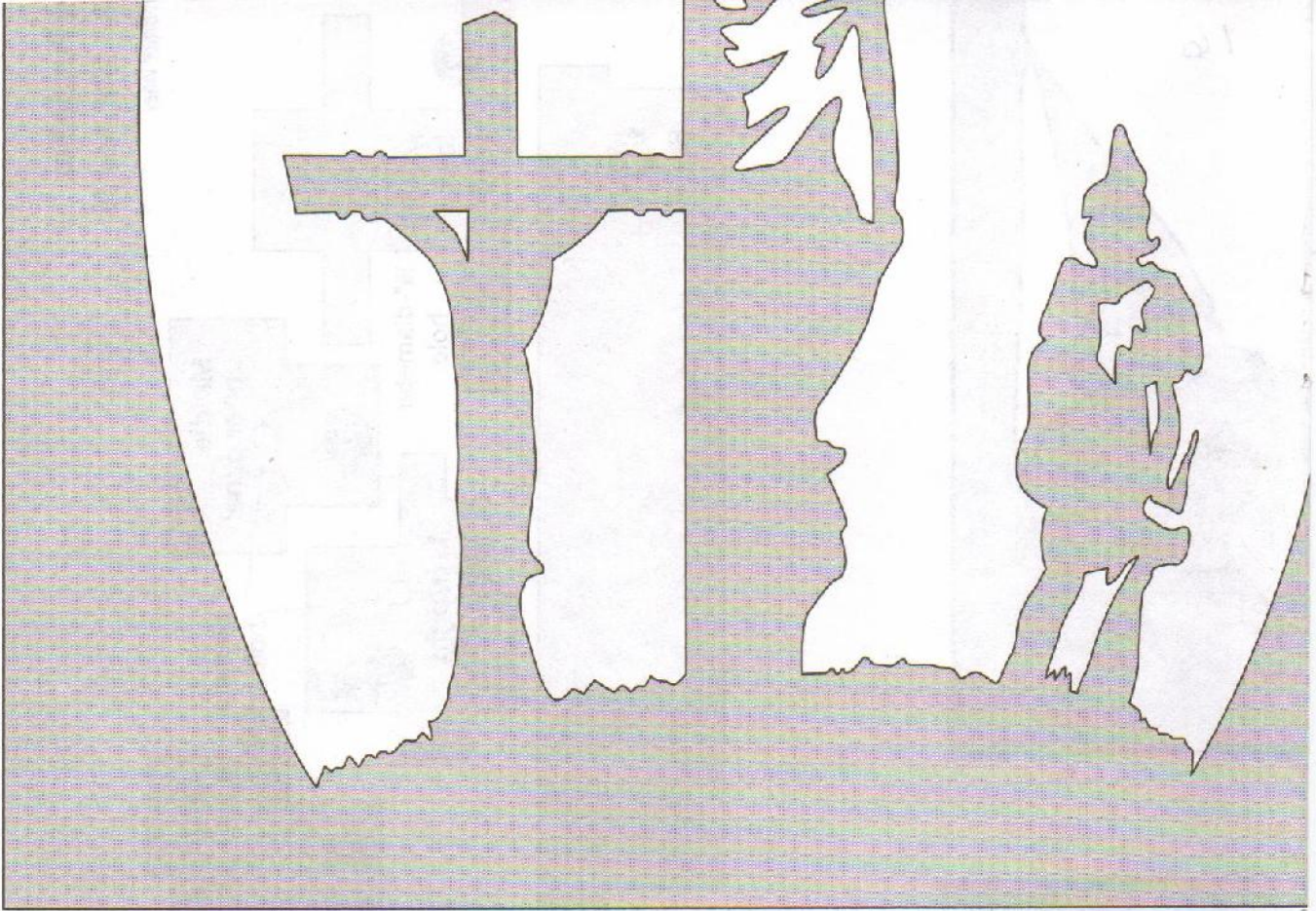
All patterns to be copied at 100% unless otherwise indicated.

All patterns on this pullout section: © 2013 Scroll Saw Woodworking & Crafts

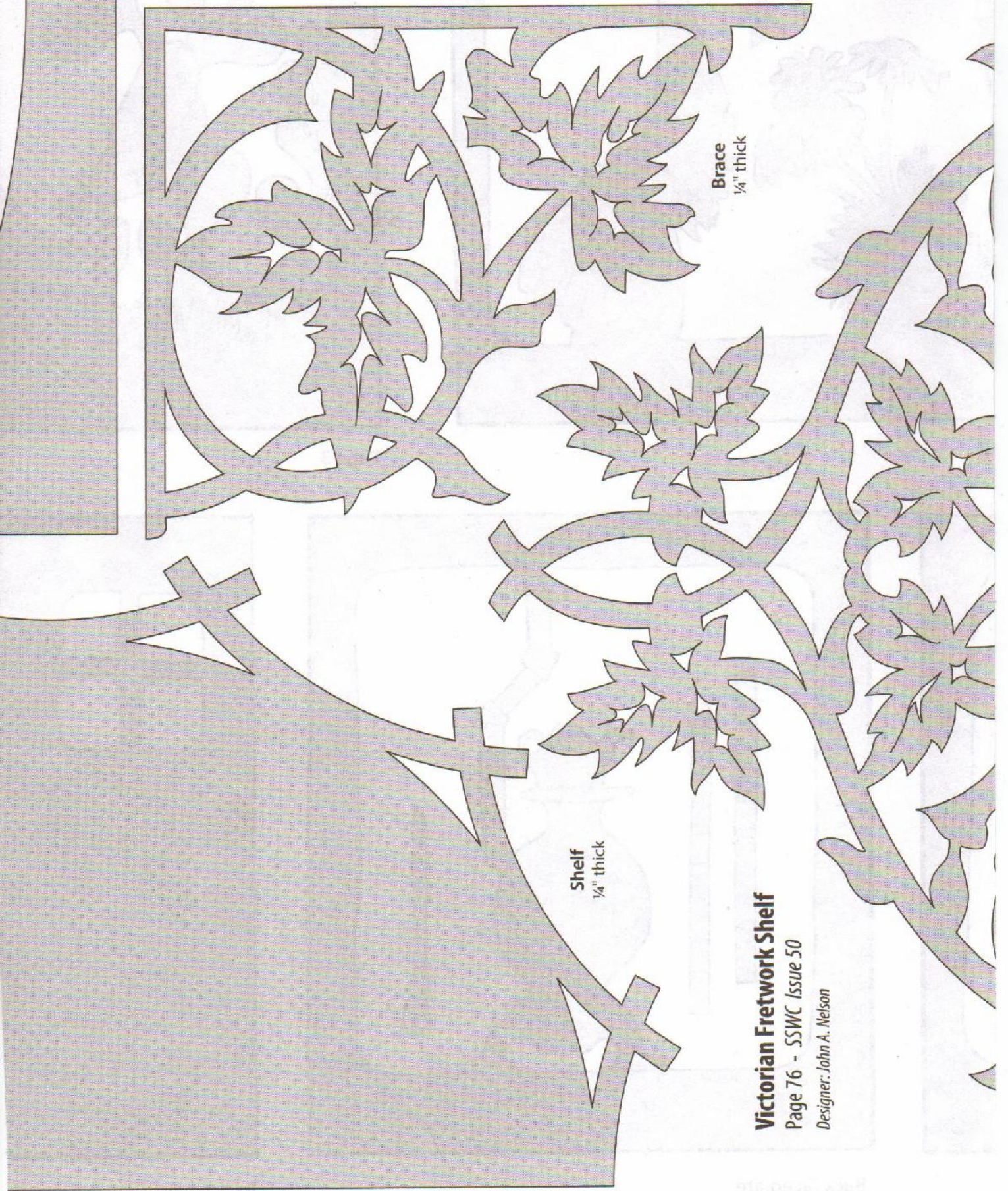
Creating a Log Picture Book	24	Secret Puzzle Box	48
Large-Mouth Bass Box	29	Beautiful Butterfly Plaques	74
Jesus on the Cross.....	43	Victorian Fretwork Shelf.....	76
Blooming Iris Intarsia	44		

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.





6



Brace
1/4" thick

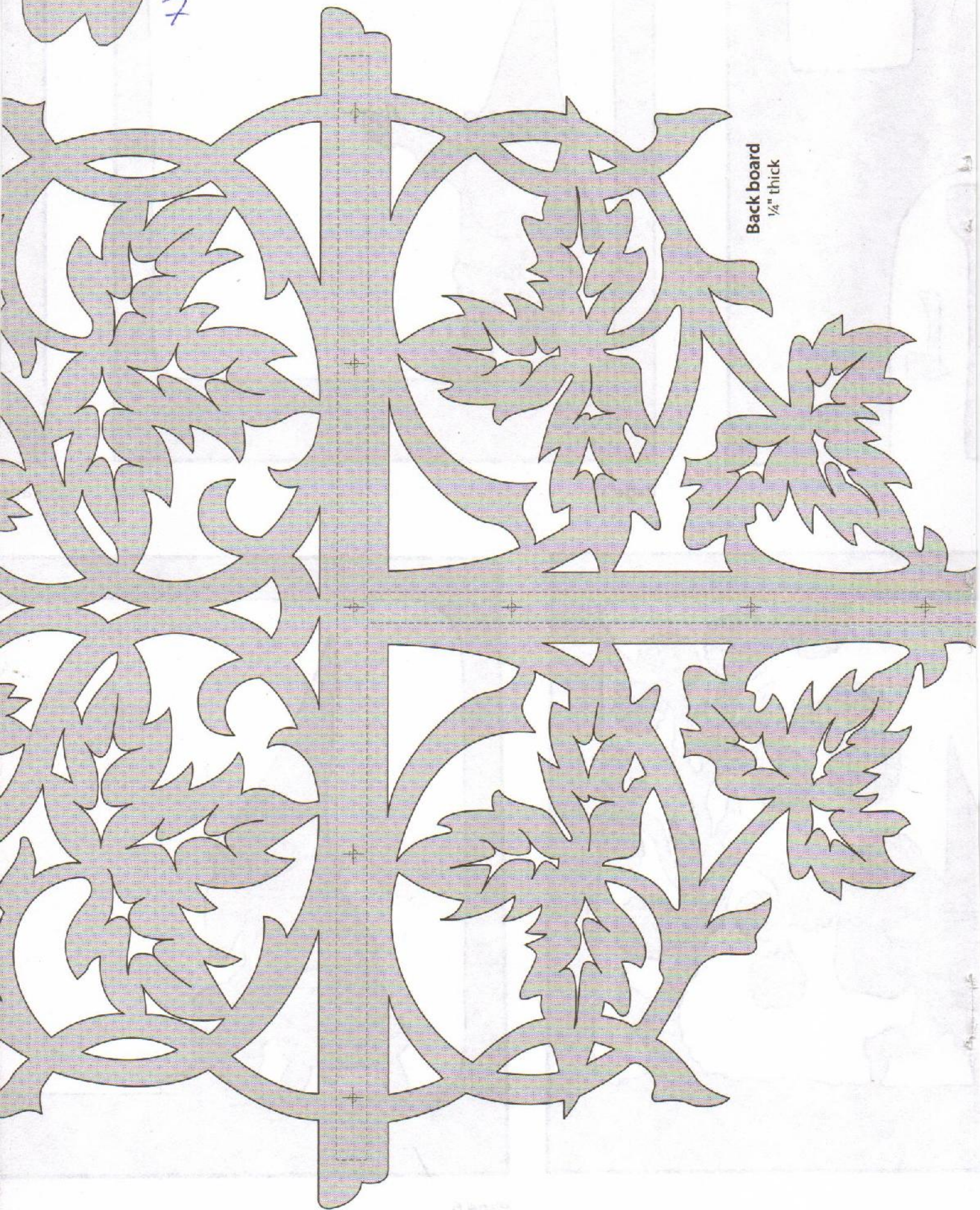
Shelf
1/4" thick

Victorian Fretwork Shelf

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Designer: John A. Nelson

7



Back board
1/4" thick

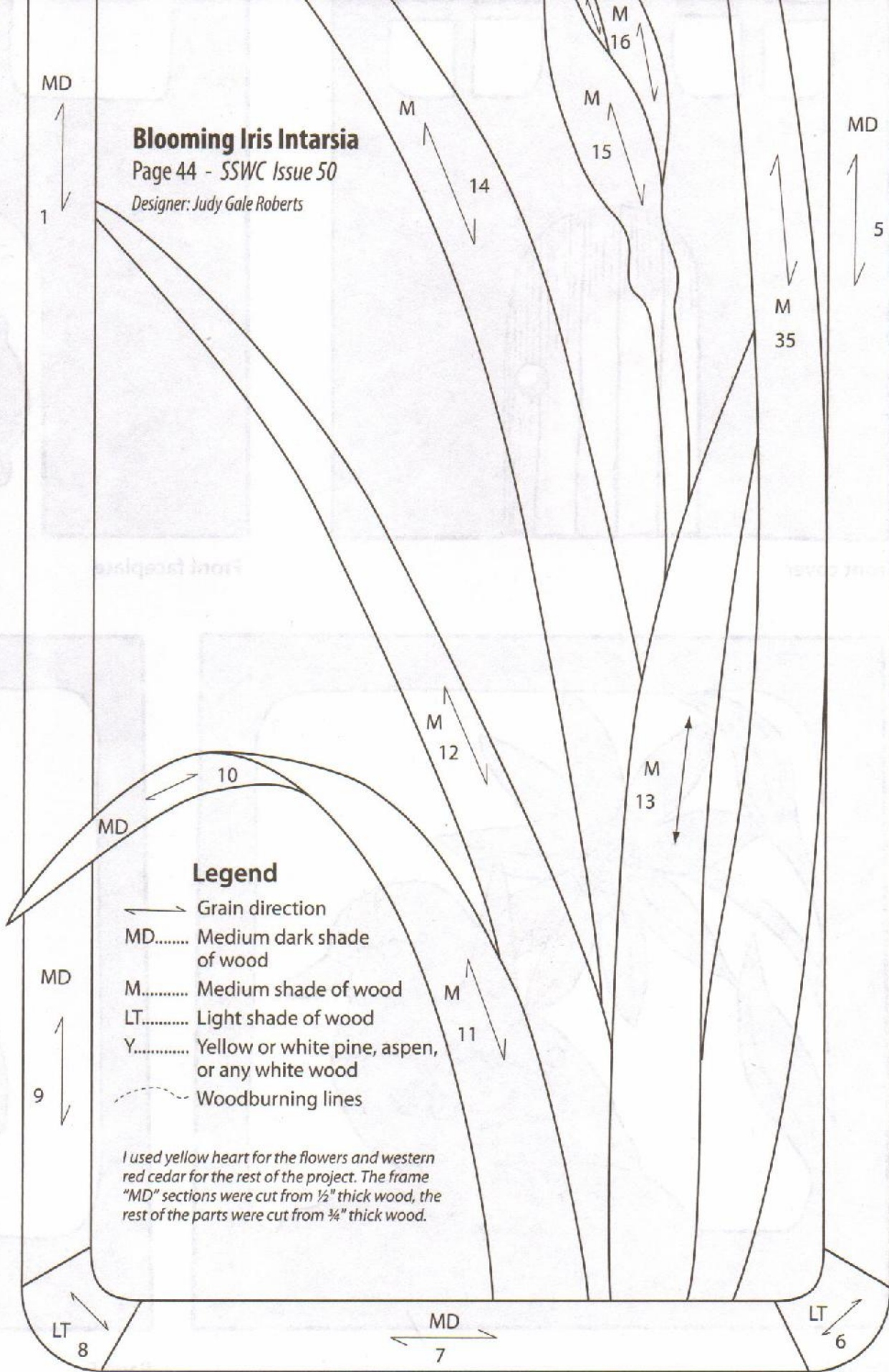
14504

8

Blooming Iris Intarsia

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Designer: Judy Gale Roberts



Legend

- ← Grain direction
- MD..... Medium dark shade of wood
- M..... Medium shade of wood
- LT..... Light shade of wood
- Y..... Yellow or white pine, aspen, or any white wood
- - - - - Woodburning lines

I used yellow heart for the flowers and western red cedar for the rest of the project. The frame "MD" sections were cut from 1/2" thick wood, the rest of the parts were cut from 3/4" thick wood.

MD
1

MD
5

M
14

M
15

M
16

M
35

M
12

M
13

MD
10

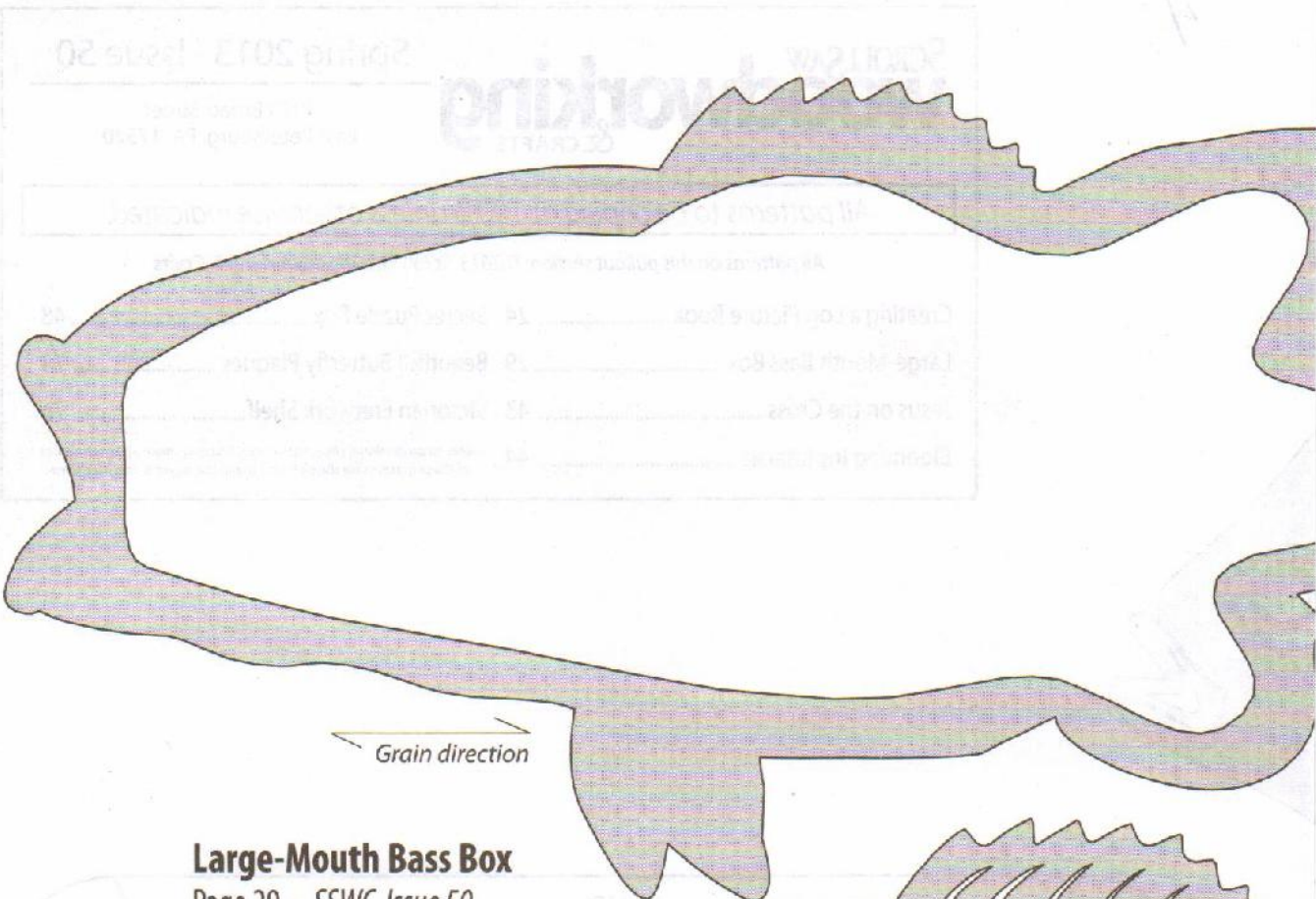
M
11

MD
9

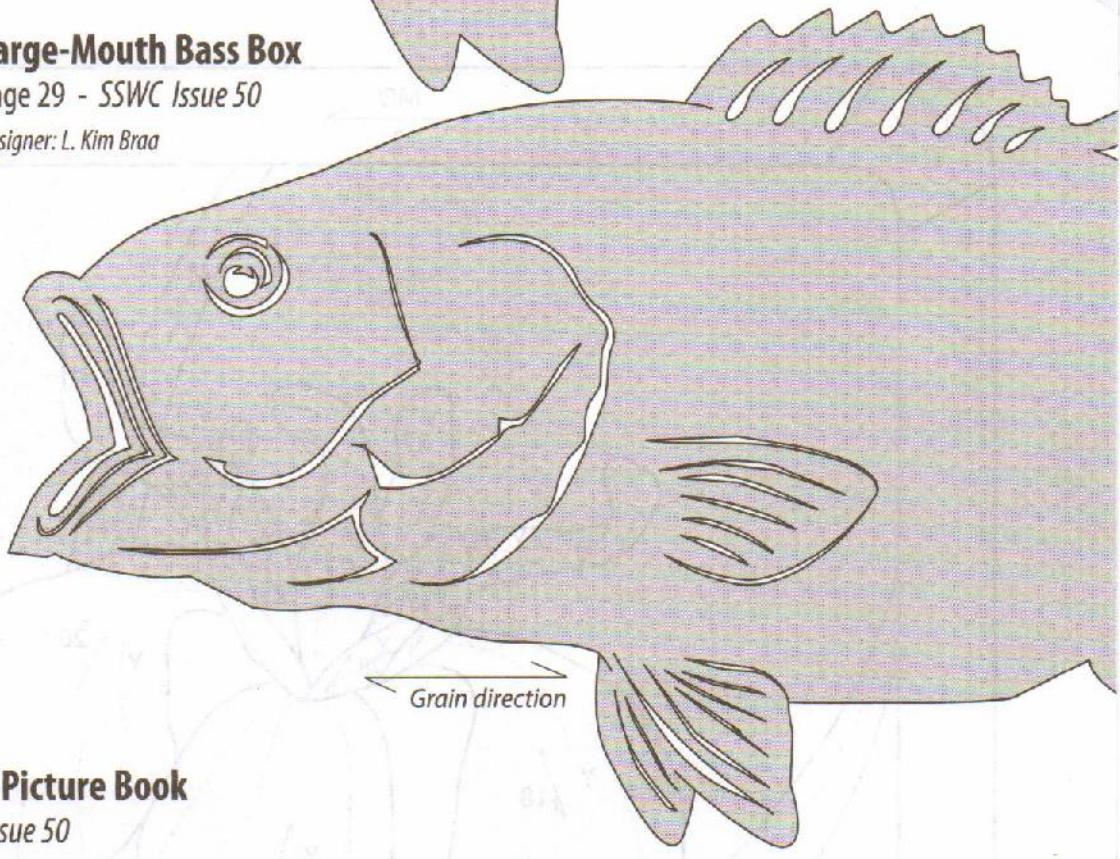
LT
8

MD
7

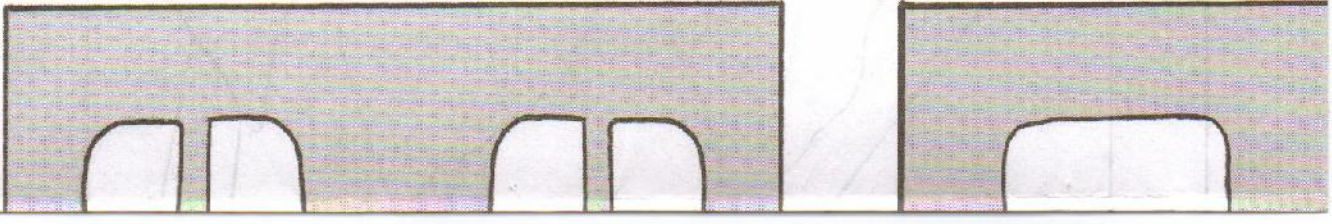
LT
6



Large-Mouth Bass Box
 Page 29 - SSWC Issue 50
 Designer: L. Kim Braa



Creating a Log Picture Book
 Page 24 - SSWC Issue 50
 Designer: Roy Ellery

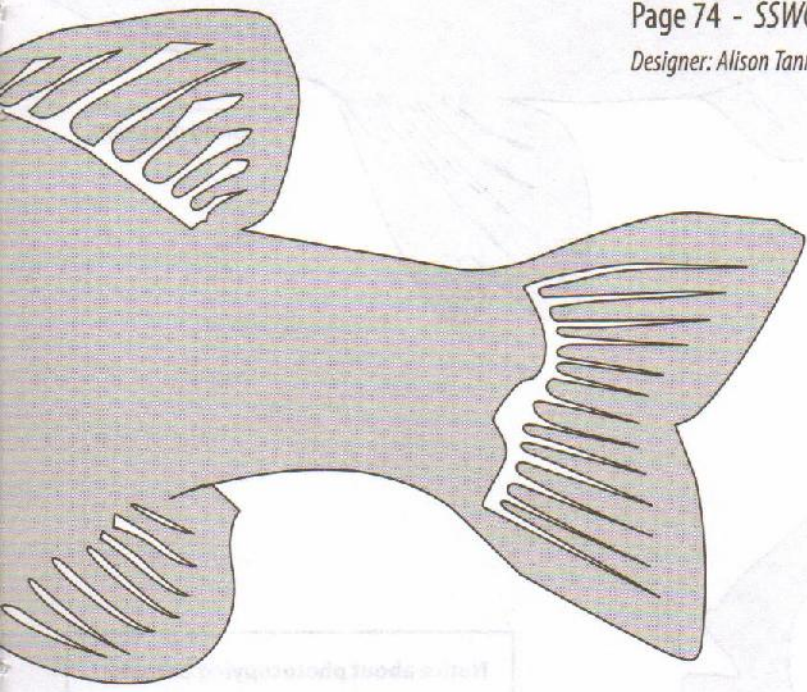
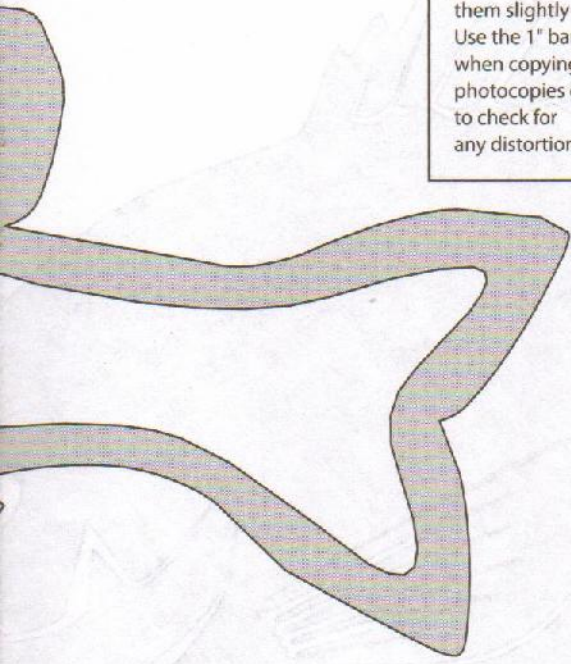


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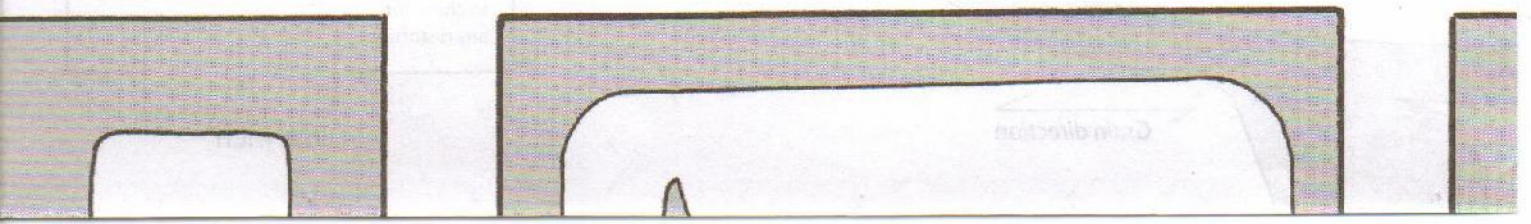
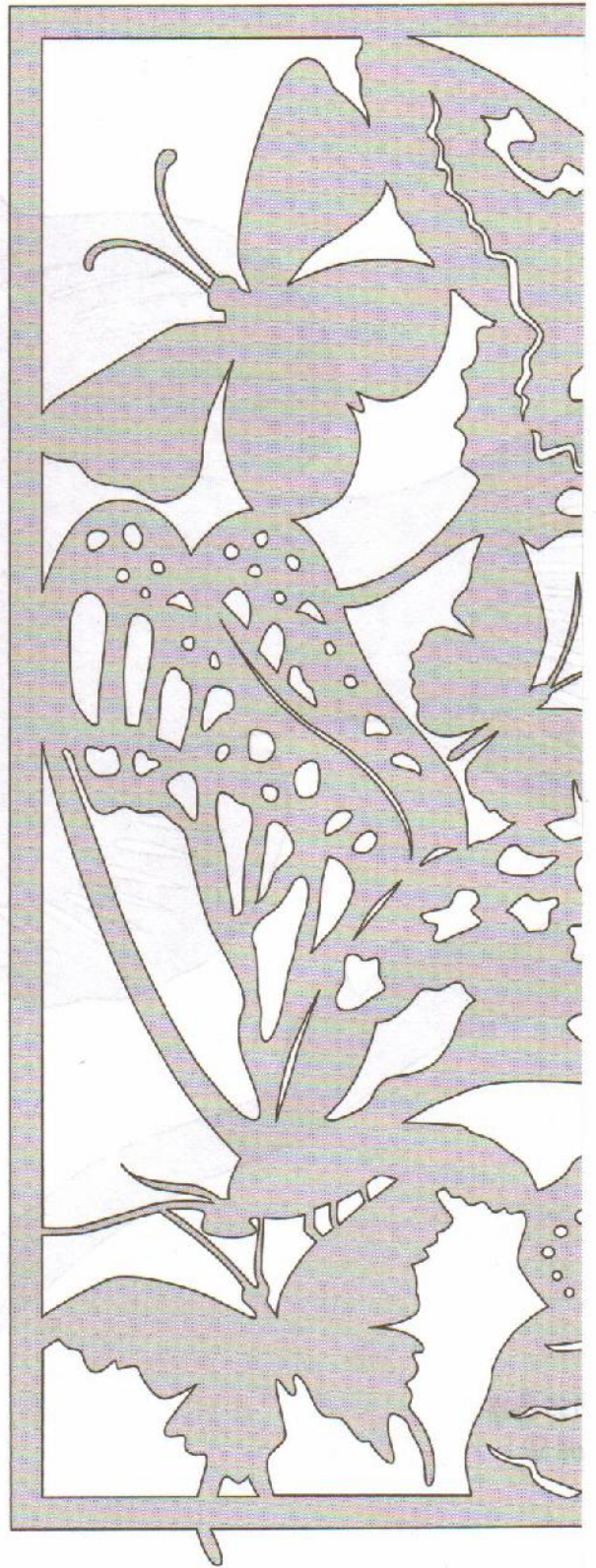
One inch

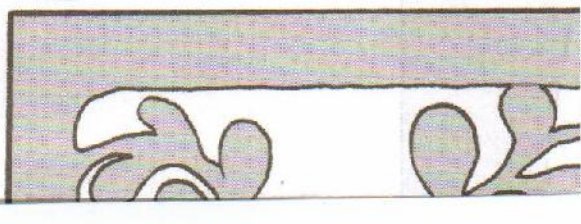
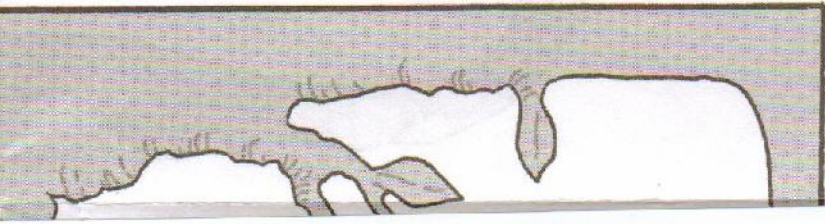
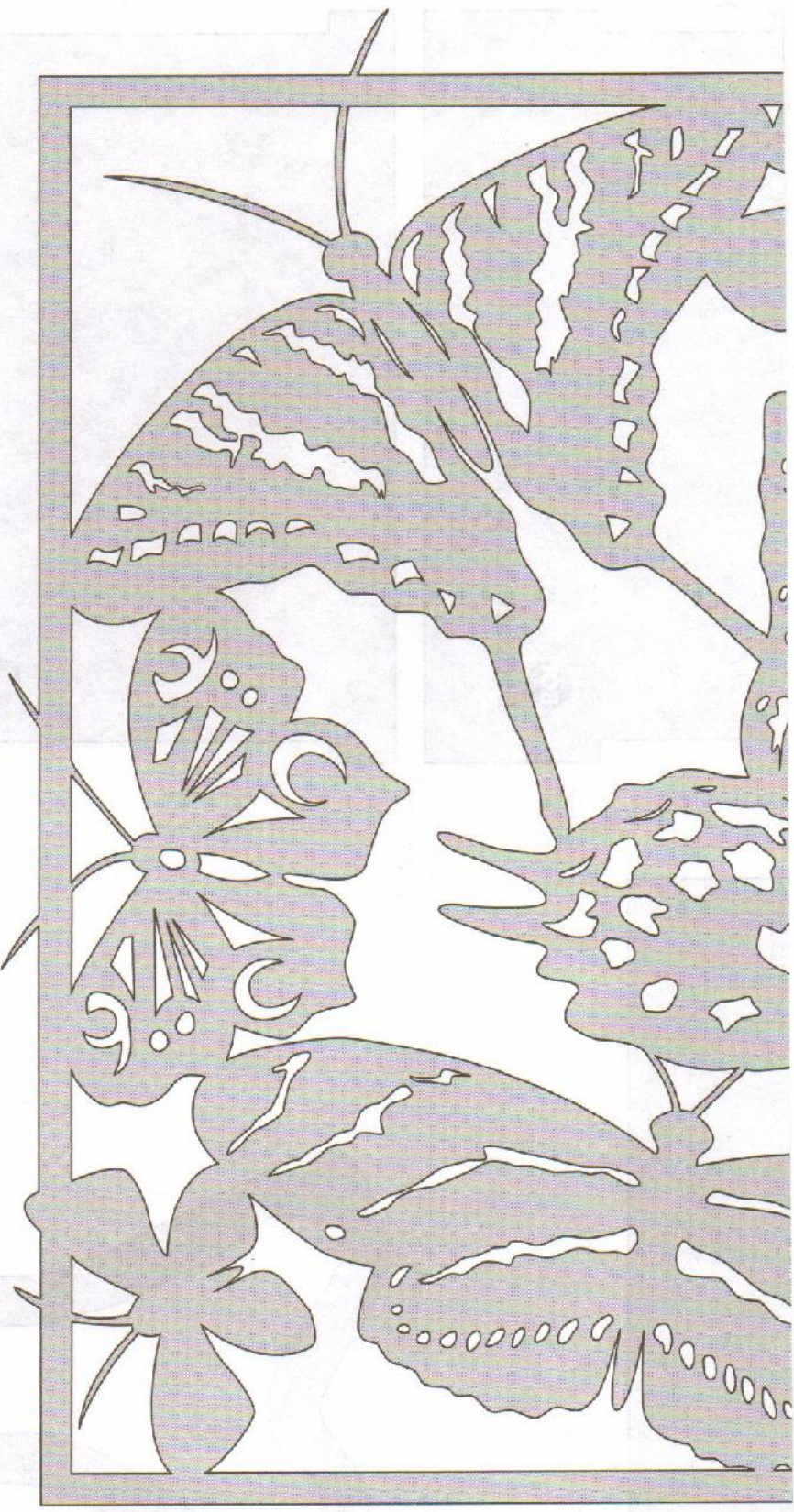


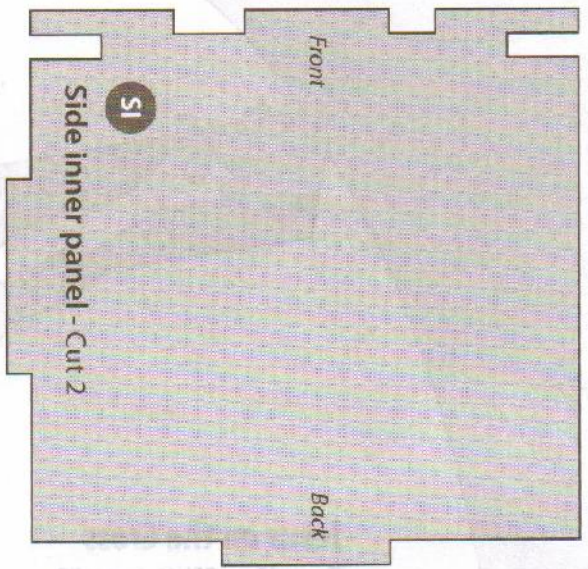
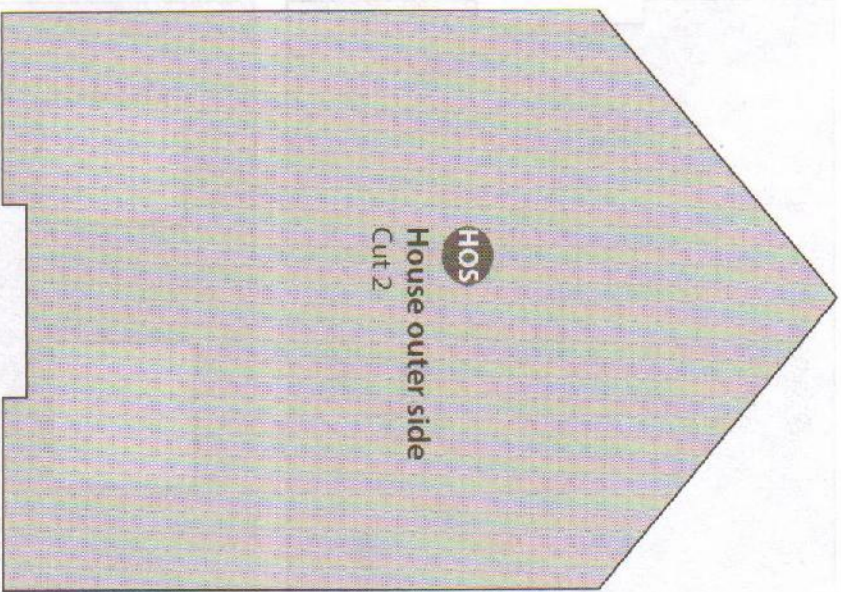
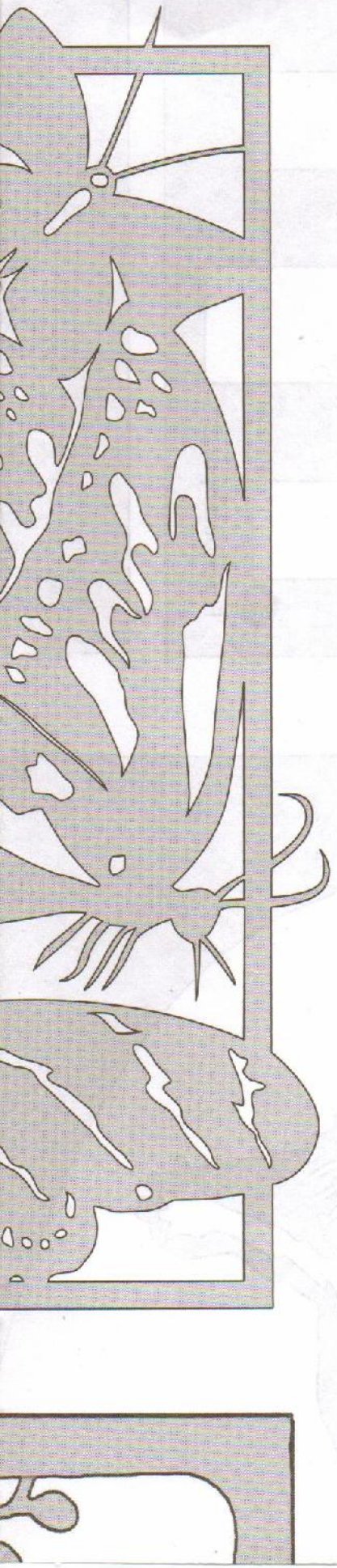
Beautiful Butterfly Plaques

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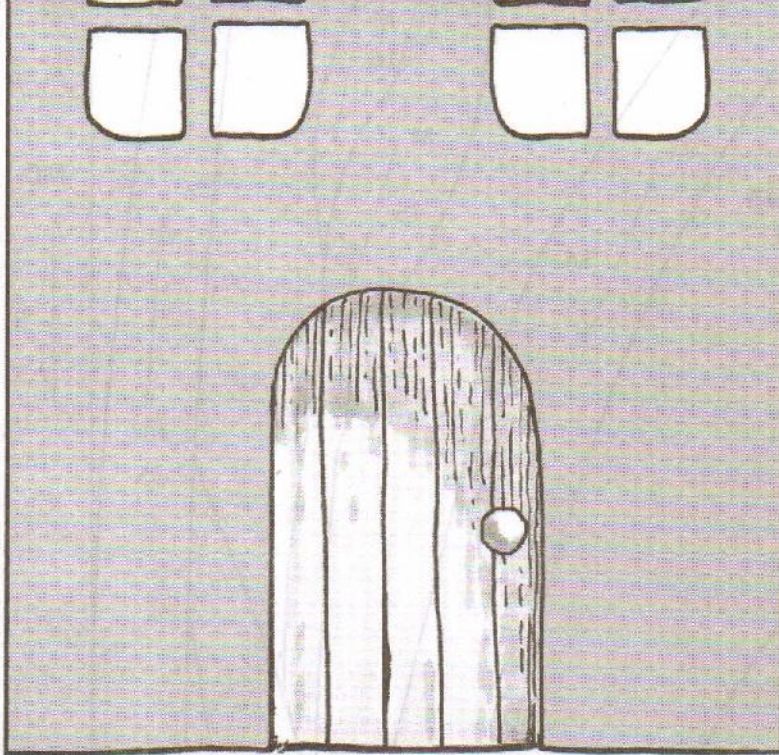
Designer: Alison Tanner



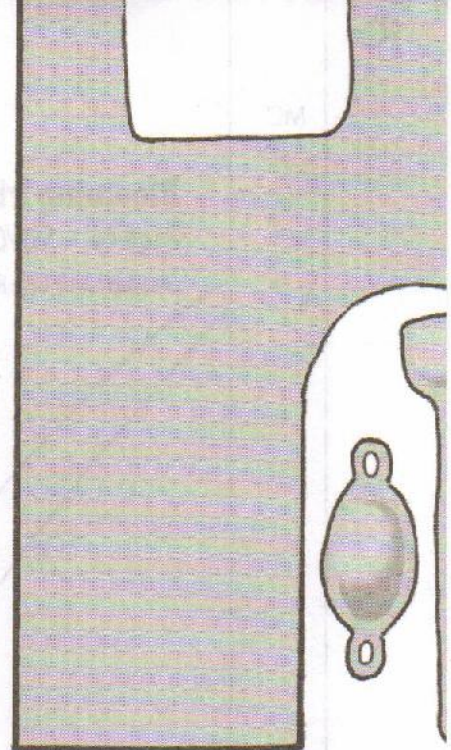




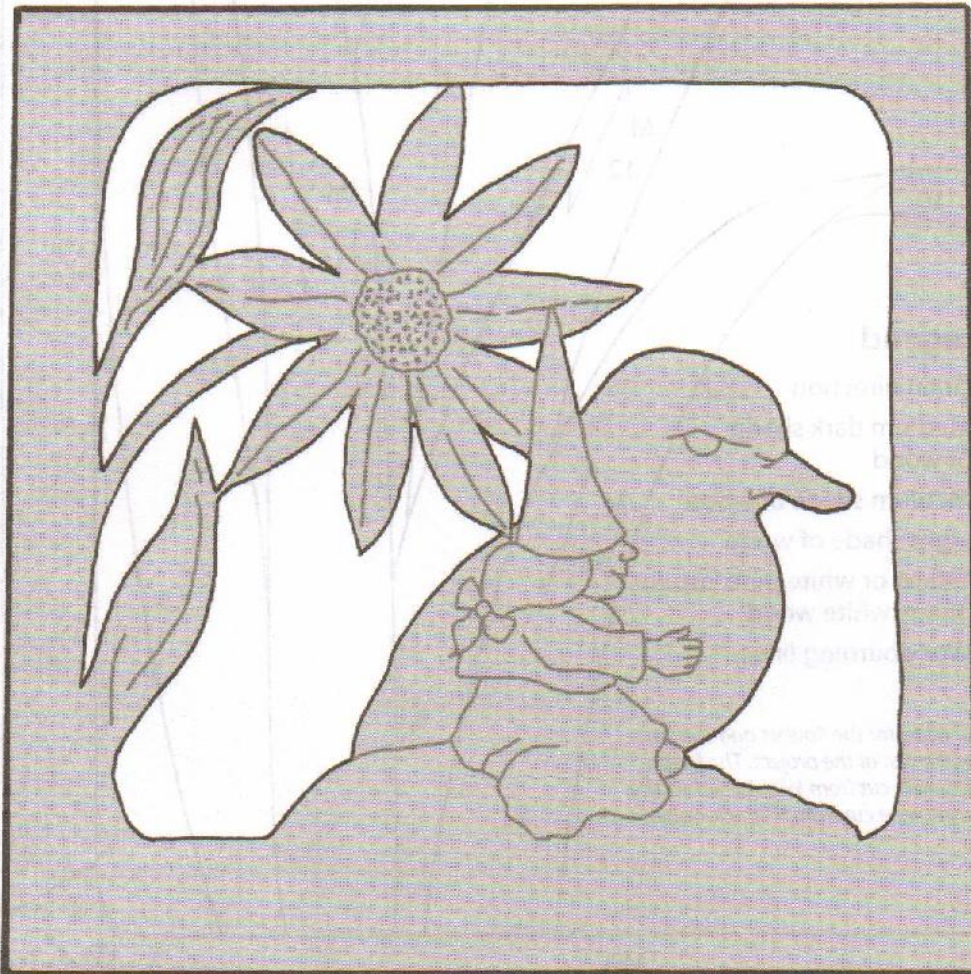
13



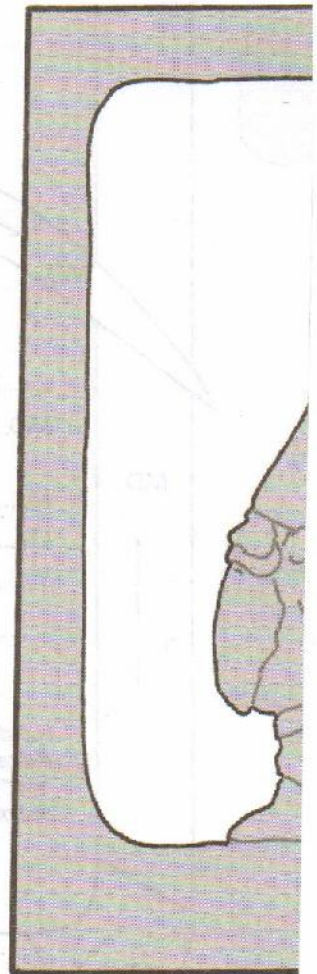
Front cover



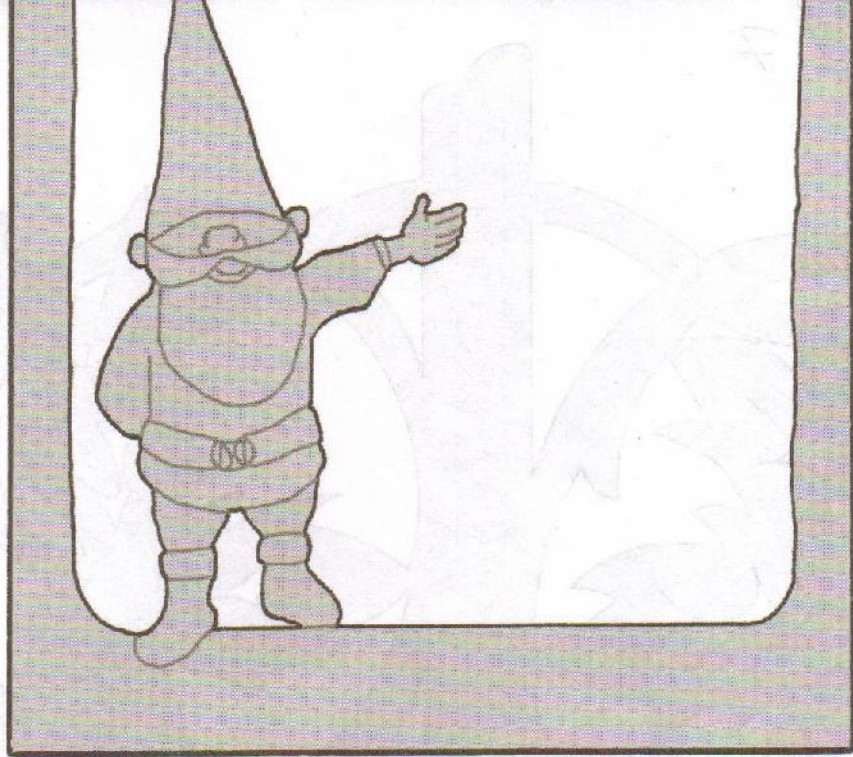
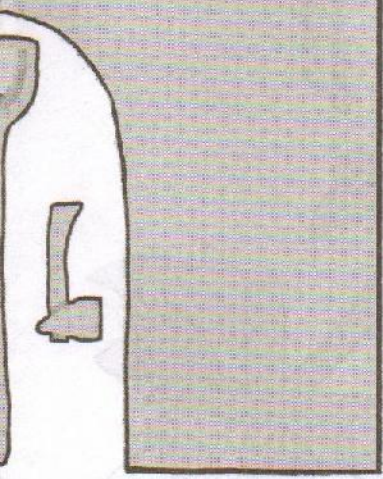
Front faceplate



Page 4

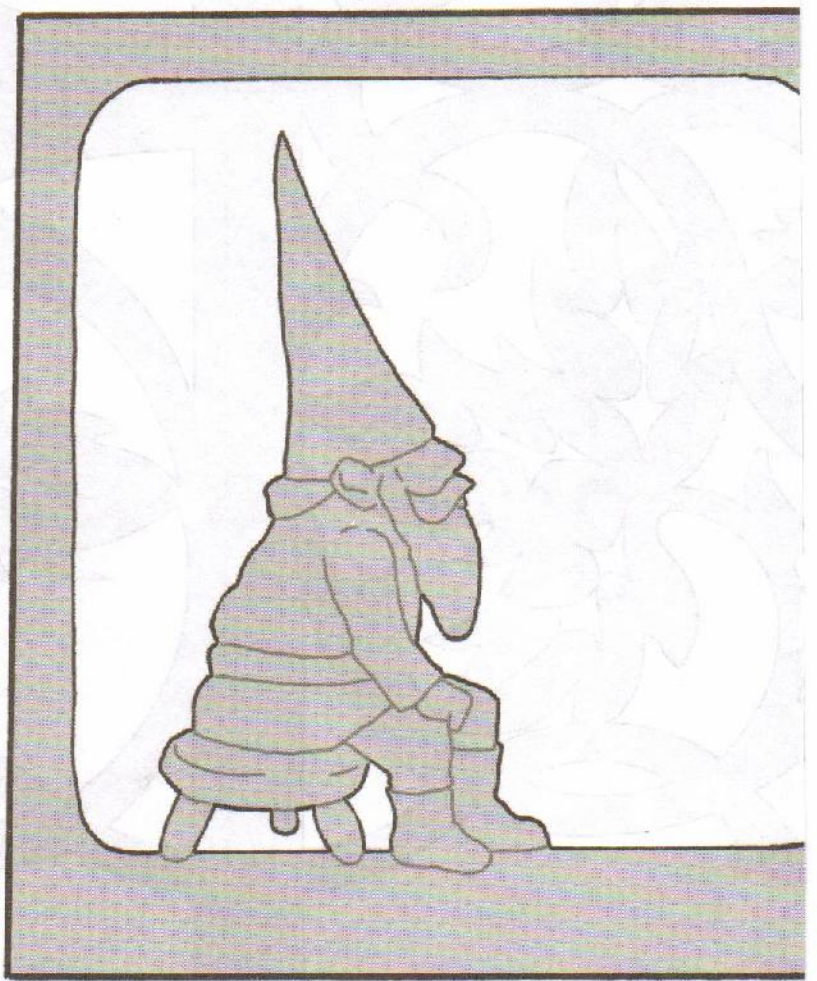


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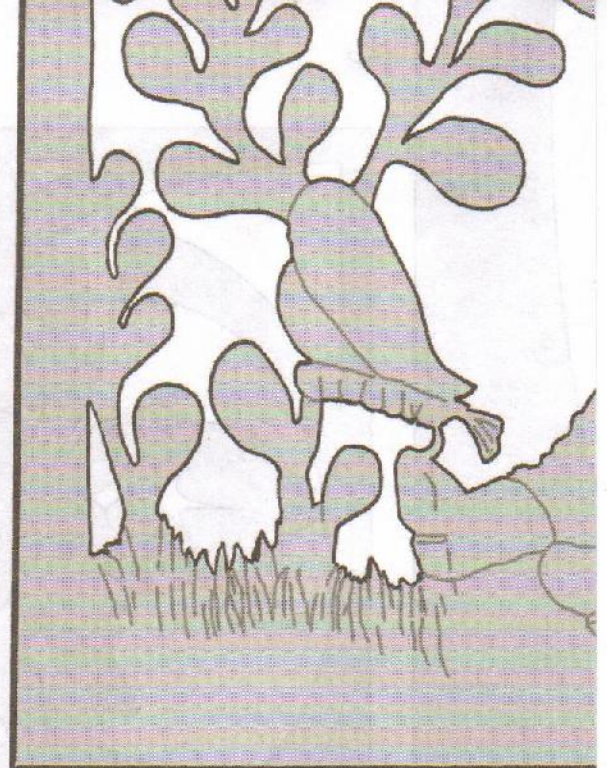
Page 1

Page



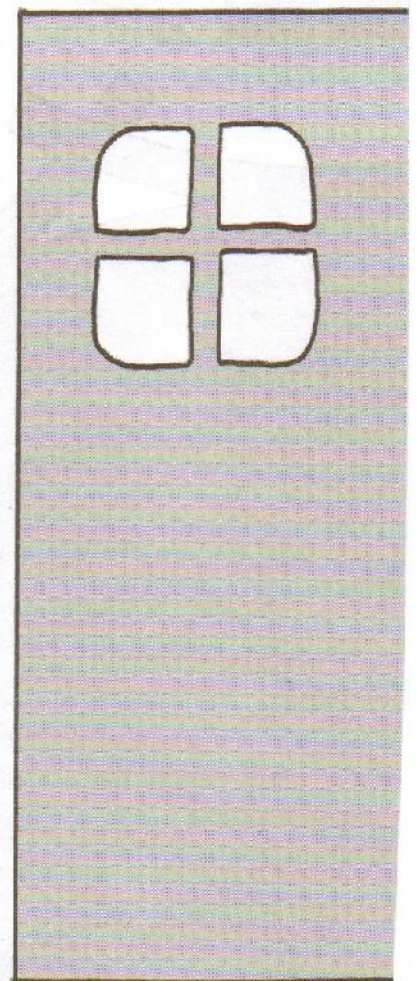
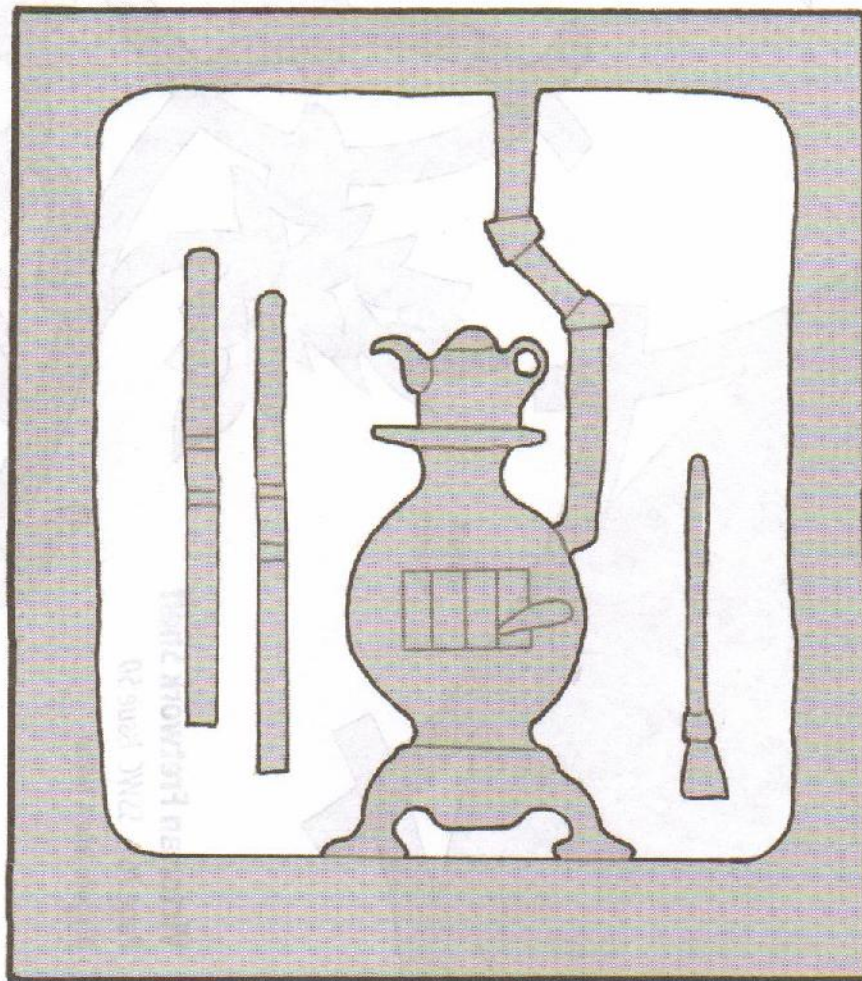
Page 6

15



2

Page 3



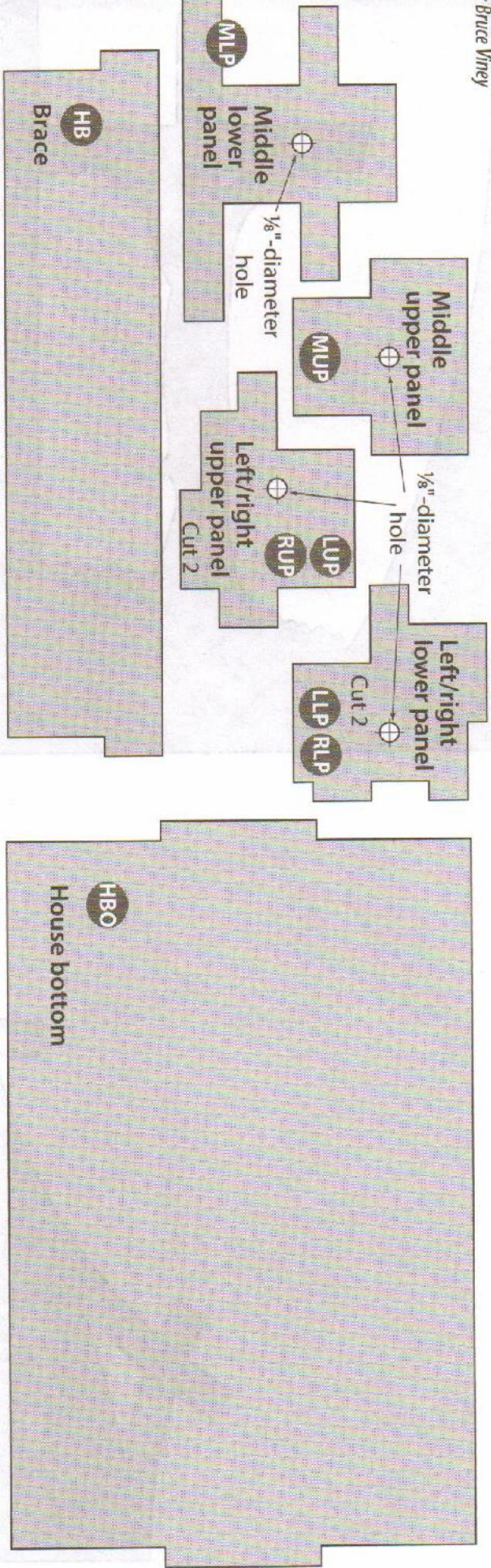
Back faceplate

Back cover

t Puzzle Box

3 - SSWC Issue 50

Bruce Viney



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