

Learn to Scroll - 5 Fun Beginner Projects

SCROLLSAW

Woodworking & Crafts

SUMMER 2009
ISSUE 35

Clock Pattern

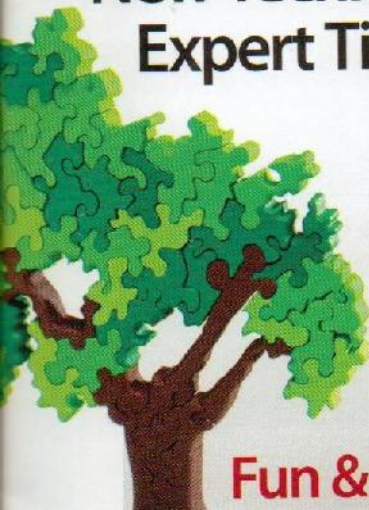
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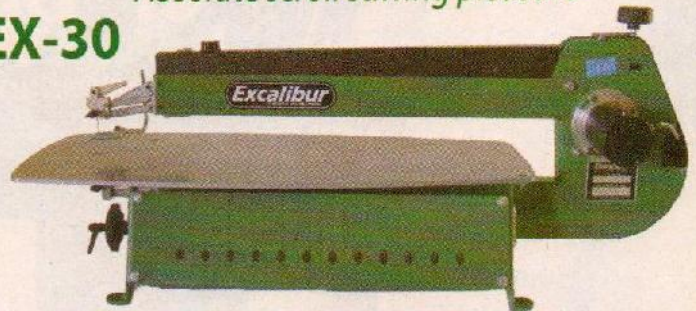
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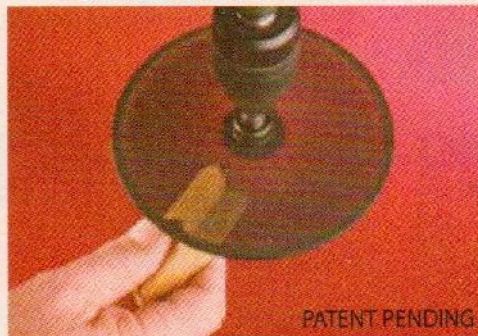
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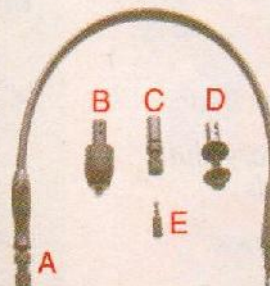
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Woodworking & Crafts

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Quick and Easy Tree Puzzle, pg. 16

Download this pattern as a PDF file for fast and easy printing from your home computer.

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Graceful scrolls highlight this heirloom-quality wall clock



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Capture the personality of this noble creature with easy segmentation techniques



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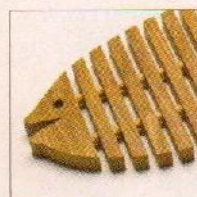
Kanji characters combine with the simple lines of Japanese architecture



62 **Embellish an Orion Puzzle**

By Judy and Dave Peterson

Use silver wire and finishing nails to add stars to this popular constellation puzzle

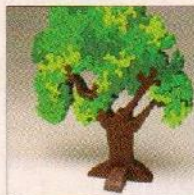


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Use tracing paper to create your own fretwork patterns

LOG ON TODAY!

Click on "In This Issue."



Bonus Intarsia Tips

Taking a Class with Judy Gale Roberts, pg. 20
Master intarsia artist and teacher Judy Gale Roberts shares answers to more of the top questions students ask.

Additional Reference Photos

Building a 3-D Sailboat, pg. 40
Browse through additional photos highlighting the details of this magnificent sailboat.



Creating a Personalized Gift

I love it when we publish a project I have an immediate need for. Karl Taylor's puzzle box from Spring 2009 (issue #34) is a perfect example. As the issue went to print, I happened to have two teenagers in need of a gift. I love shopping for my 9-year-old son. If you can throw it, shoot it, or it bounces, it's a sure-fire hit. Choosing a gift for an 18-year-old is a totally different ball game. I usually resort to gift cards or cash, but I find it very impersonal and I don't get joy out of giving gifts like that. The secret

chamber puzzle box solved my gift-giving dilemma for another year!

It's actually a relatively simple project and doesn't require precise cutting. If you stray from the pattern lines, nobody will be the wiser. I rolled up the cold hard cash and tied it with a scrap of ribbon. The bill tucked neatly into the puzzle box and I actually had something I could wrap.

My puzzle boxes weren't perfect. I think I used too large a blade, causing a lot of play in the lid. I also pushed the thick wood too hard while cutting. This resulted in an angled cut and the lids only slide off from one side. My younger son asked who was getting the box with the knot in the lid. I explained I was giving that one to his brother. "Oh good," he said. "He gets the messed up one."

Now, I like the one with the knot in the lid because I think it gives the box some character. But if it makes him happy to think his brother was getting a defective box, who I am to argue?

When the teens opened their gifts, I told them the craftsmanship may not be top notch, but the boxes were made with love. And you know what? The kids loved them! Of course they tucked the rolled-up bills promptly into their pockets, but they played with those boxes for quite some time. The boxes were passed around among other family members and I think a few of them might have been a little jealous.

For a few hours of my time and some scrap wood, I was able to turn a ho-hum gift into something that I was proud to give. The puzzle boxes added a personal touch I hope the kids will remember long after the cash is gone.

Shannon Flowers

Shannon Flowers
Shannon@FoxChapelPublishing.com



These quick and easy puzzle boxes make perfect gifts for hard-to-please teens.

SCROLLSAW

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Contributors

AUTHOR SPOTLIGHT

Pete DeFrancisco

Japanese Garden Clock—page 59

Pete DeFrancisco, of Dallas, Tex., has been working with wood for 25 years. He started scroll sawing seven years ago when he had to cut a fretwork panel for a piece of furniture. Now, he's hooked on scroll sawing. The Japanese Garden Clock was the second clock he designed, and he was completely surprised when his project was highlighted in the 2007 Best Project Design Contest and he was asked to write an article. The article gave him the confidence to take his work to a local craft fair.



Deborah Nicholson

Build a Realistic Crab—page 24

Deborah Nicholson, of Hernando Beach, Fla., has been an artist all of her life. Her father is an artist, so her artistic talents bloomed early. Living on the coast of Florida, the ocean inspires the majority of her artwork. She had done several intarsia projects before deciding to recreate the look and feel of the crabs scuttling around the ocean floor. Deborah was honored her talent was recognized in the 2007 Best Project Design Contest and was thrilled to write an article.



Susan Mathis

Majestic Elephant Mosaic—page 30

Susan Mathis lives in Apple Valley, Calif., with her husband. Susan loves and cares for all kinds of animals, which is often reflected in her animal portraits. She enjoys creating wildlife portraits and really loves the challenge of trying to make them as lifelike as possible. Susan used to paint on canvas with oils until three years ago, when quite by accident, she discovered the scroll saw. She now creates her portraits with wood. Susan finds great inspiration in the pages of *Scroll Saw Woodworking & Crafts* and was honored that her piece was recognized in the magazine's 2007 Best Project Design Contest.



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Recycling and Re-using Blades

I don't re-use my blades, but I do recycle them. I buy the 6"-long M&M tubes for my kids and save the empty containers. I store all of my new blades in the tubes using the color of the tube to denote the size or type of blades.

I reserve a specific color of tubes for used blades. It takes quite a while to fill one up, but when it's full, I take it to the local recycling center with the rest of my recyclables. I hand it to the attendant, make sure he opens it, and let him take it to the proper area. I know many people just throw them out, but then they would go to a landfill. Think about what would happen if someone would step on a blade sticking out of the ground—especially the heavy-duty blades used for cutting thick wood.

I also recycle the copper wire wrapped around the blades. It takes even longer to fill up an M&M tube with the thin wire, but it's one less item going to the landfill.

Susan Valerien
Gambrills, Md.



Fox Hunt

Tom Fontana of Springfield, N.J., and Charles Dean of Chester, Va., were randomly drawn from the participants who located the fox in our last

issue (Spring 2009, Issue 34). The fox was located in the photo for Step 11 on page 34.

If you find the fox in this issue, contact us and tell us the page number and location. Two readers randomly selected from all correct replies will receive a \$25 Fox Chapel Publishing gift certificate. Entries must be received by June 1, 2009 to be eligible. *NOTE: The contest fox is an outline drawing that would face left if his feet were on the "ground" (other foxes appearing in SSW&C don't count).*

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

Since I seldom break blades, I give a lot of my used blades to beginners. A new blade cuts faster and is harder for beginners to control, especially if they are cutting thin stock. A dull blade allows the beginner to cut slower and learn how to control the cut with fewer mistakes. Most beginners start on a low-cost scroll saw and they break a lot of blades just learning how to set up the saw. With used blades, there is no expense. It is a cheap way for them to get accustomed to their saw and the art of scrolling.

I tried this procedure with my 7- and 10-year-old grandsons when they started scrolling. The dull blade got them over the fear of the blade and allowed them to make better cuts, which increased their confidence. They quickly became proficient enough to graduate to new blades.

B.L. Herm Ely
Mustang, Okla.

Team logos are protected by copyrights.

Copyright Warning

The Autumn Leaves Coasters in *SSW&C* Fall 2008 (issue 32) are beautiful and certainly lend themselves to being individualized in unlimited ways. However, shouldn't you at least mention that most logos, especially sports team logos, are copyrighted and protected? Creating items for personal use is usually acceptable, but selling these items can lead to big trouble.

Ruth Groves
Everson, Pa.

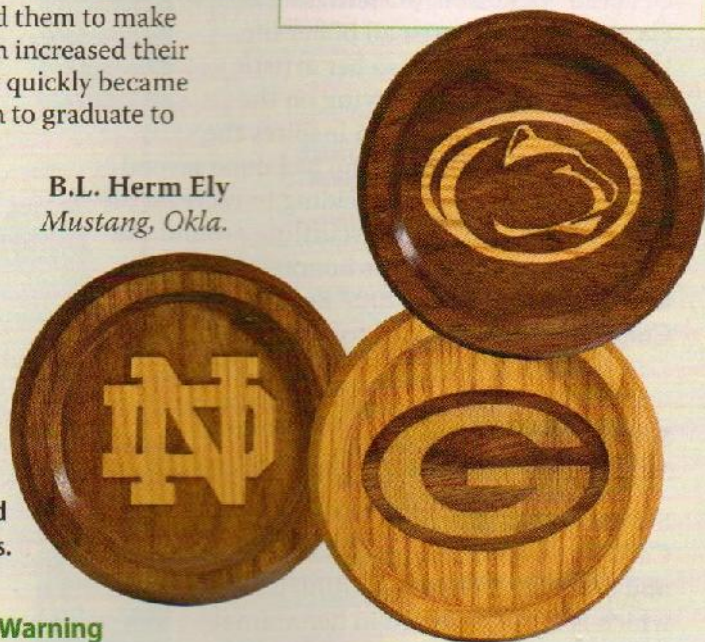
Editor's Note: Ruth is absolutely correct. Using copyrighted logos is generally acceptable when creating items for personal use, but permission must be obtained before items can be sold or distributed.

2009 Scrolling Events

Apr 17-19: TEXAS. 2009 Texas Scroll Saw Picnic, sponsored by the DFW Scrollers and Lyndal's Backyard Workshop, DENTON (Denton Civic Center). Fri. 1pm-6pm & Sat. 9am-4pm. \$8 adm. pre-registered, \$10 adm. at the door. Contact Lyndal, 469-360-9938, www.DFWScrollers.com.

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

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



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Working with Epoxy

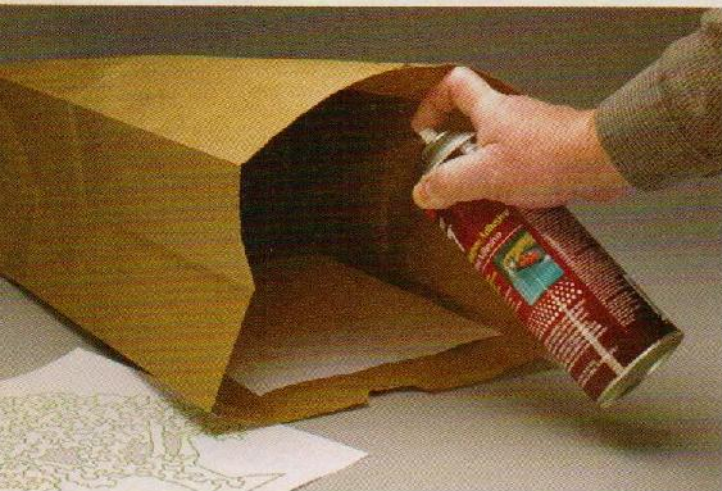


Mix epoxy in the bottom of a crushed soda can for quick and easy clean up.

I crush an aluminum can and use the concave bottom to mix epoxy. I've mixed as much as 3 ounces of two-part epoxy in this type of receptacle. When you are done with the epoxy, throw the can in the recycling bin.

To spread epoxy—and other glues too—I use the plastic tab inside foam paint brushes. After the foam brush outlives its usefulness, pull off the foam. You are left with a plastic tab or squeegee attached to a wooden handle. This tab works great to transfer epoxy from the mixing pot to the workpiece. It also allows me to apply a thin uniform coat of epoxy or glue to the workpiece.

Ken Ward
Cary, Ill.



A paper grocery bag catches adhesive overspray.

Handling Patterns

I use spray adhesive to attach the patterns to wood. To catch any overspray, place the pattern inside a paper grocery bag laying on its side. Spray the adhesive onto the pattern inside the bag. The bag catches the overspray.

To remove patterns, I add a few drops of acetone to the entire pattern using an eye dropper. While acetone is more flammable than some of the other solvents, it works quickly and allows me to remove the pattern in one piece with little residue. The acetone also dries quickly.

Charles J. Stowers
Collinsville, Ill.

Salvaging Wood

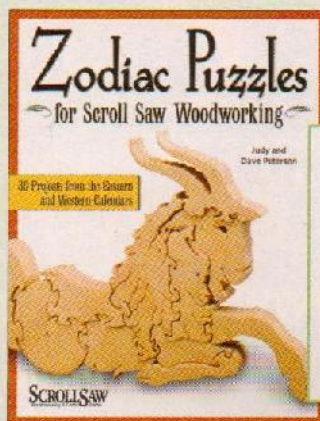
If you are scrolling on a budget, I have found a great source for all kinds of exotic and hard woods. Try your neighborhood thrift stores. I found trays, bowls, spoons, shelves, plaques, trophies, and boxes in all kinds of hard woods for low prices. For the cost of a little time taking them apart, you can get a lot of usable wood.

Roberta Farquhar
Albuquerque, N.M.

Recycling CDs

I sand off the shiny side of old CDs. Sprinkle the sander dust onto cut ornaments while your paint or polyurethane finish is still wet. It makes the ornaments shine and sparkle like glitter. This way, I get some use out of something I was going to throw away.

Marshall Border
Jonesboro, Ark.

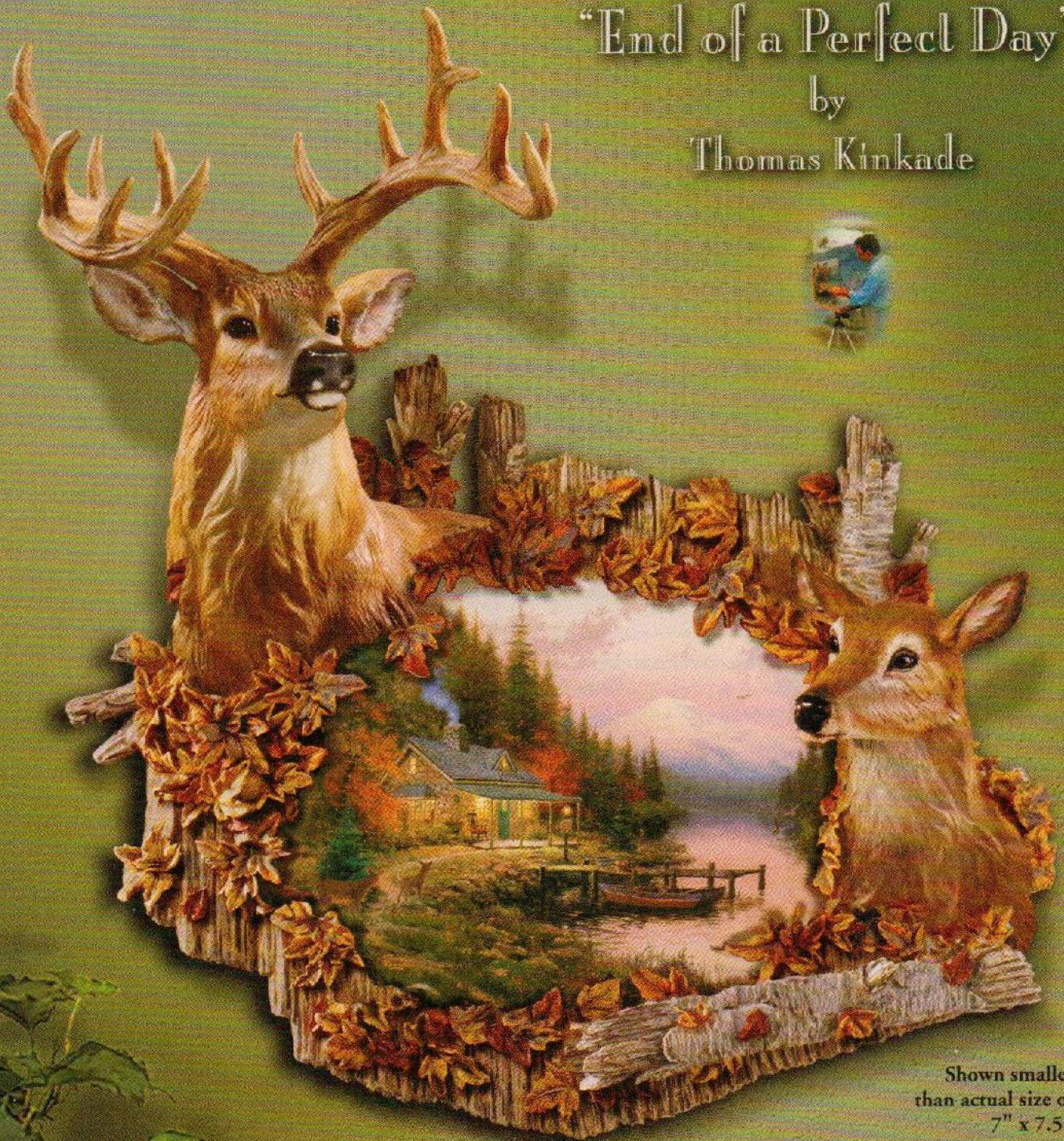


TOP TIP in our fall issue wins an autographed copy of Judy and Dave Peterson's new book, *Zodiac Puzzles for Scroll Saw Woodworking*. Send your tips or techniques to Bob Duncan, 1970 Broad Street, East Petersburg, PA 17520, or Duncan@FoxChapelPublishing.com

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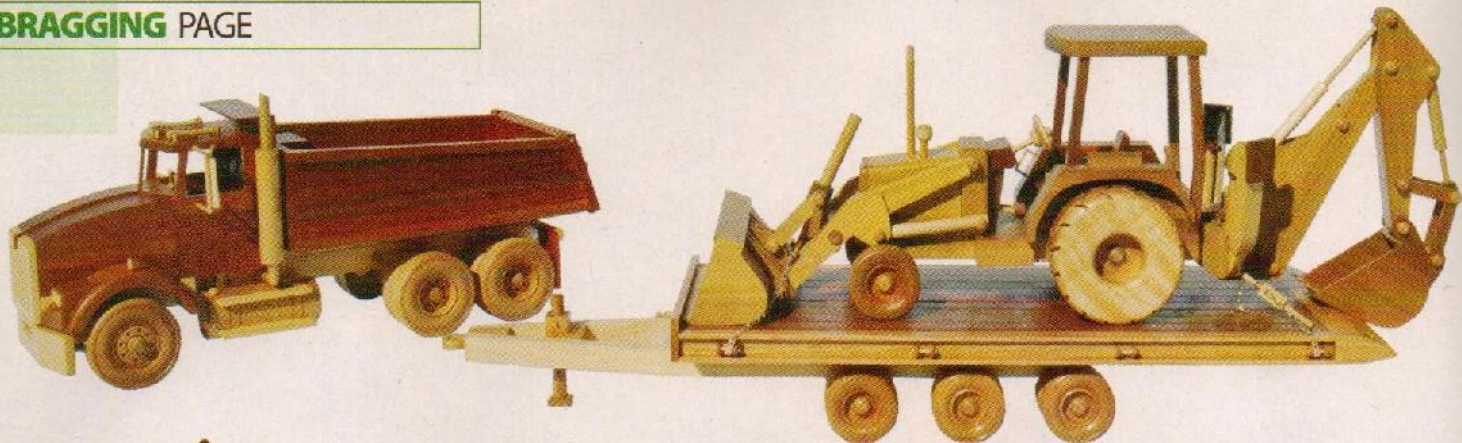
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▲ Heavy Machinery Toys

Darrell Rumble of Hayward, Calif., created this dump truck, trailer, and backhoe based on patterns by Toys and Joys. The truck is made from cherry and pine. The trailer is made from pine, red oak, and an unidentified hardwood. The backhoe is made from poplar with cherry accents. The overall length of the project is 4'. Darrell spent about four weeks time (spread out over 11 months) working on the pieces.



◀ Elegant Fretwork

James Mastrocola of Myrtle Beach, S.C., spent 25 hours behind the saw cutting this clock, designed by John A. Nelson. This is the first clock James cut. The project is made from cherry and finished with lemon oil. James also enjoys cutting cross designs.

Elaborate Box ▶

J. Bradley of West Union, Ohio, created this box based on a design by Gary MacKay, which appeared in Fall 2006 (Issue 24). The box is made from scraps of maple and walnut. J. can't bear to throw away small scraps of wood, so he used them to create this box and several other small trinket boxes.



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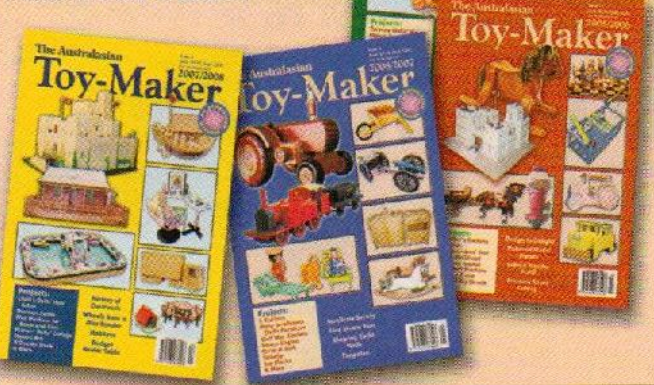
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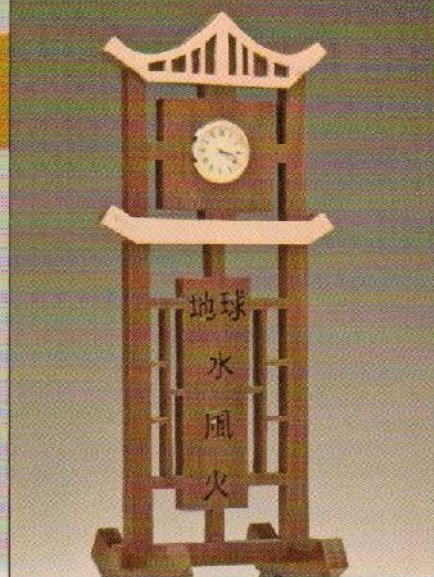
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BEST PROJECT DESIGN CONTEST 2009

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Japanese Garden Clock by Pete DeFrancisco - page 59

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Awards. Entries will be posted on the SSW&C Website, www.scrollsawer.com, for voting.

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Entry deadline is December 31, 2009.



Build a 3-D Crab by Deborah Nicholson - page 24



Majestic Elephant Mosaic by Susan Mathis - page 30

Artists retain all copyrights, but consent to having a pattern of their project published in SSW&C. Entries will be acknowledged, but photos and materials received will not be returned. Please do not submit original artwork.

CONTEST RULES:

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

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

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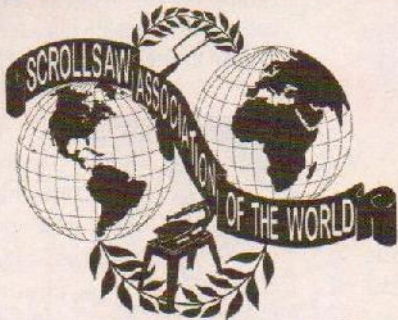
Submit the following information:

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- 1 or 2 clear photographs of your work
- Information on the project size and types of wood used
- Information on special construction or finishing methods
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If you haven't visited the SSW&C website you're missing out!

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patterns, tutorials, and helpful information. Be sure to upload photos of your latest project to the scroller galleries, which feature over 6,000 images to inspire your next creation!

www.scrollsawer.com



This beautiful dove intarsia by M.Smit is one of thousands of photos posted in the scroller galleries.

Attaching Patterns

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



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

Removing Patterns

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

Blade-entry Holes

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



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

delicate fretwork. Drill through your blank into scrap wood to prevent tear out on the back side of the blank.

If you have the space, use a larger bit—it will make it easier to thread your blades through. For thin veining cuts, use the smallest bit your blade will fit through.

Blade Tension

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

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

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

Squaring Your Table

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

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



The cutting-through method is also popular. Saw through a piece of scrap wood at least $\frac{3}{4}$ "-thick and check the angle of the cut using a square. Adjust the table until you get a perfectly square cut.

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



You can also use the kerf-test method. Take a $\frac{1}{4}$ "-thick piece of scrap and cut about $\frac{1}{16}$ " into it. Stop the saw, and spin the wood around to the back of the blade. If the blade slips easily into the kerf, the table is square. If it doesn't slide into the kerf, adjust the table and perform the test again until the blade slips in easily.

Stack Cutting

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



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

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

Another method uses hot-melt glue. Glue the blanks together with a dot of hot-melt glue on each side.

You can also join pieces for stack cutting by driving brads or small nails into as many waste areas as you can. Be sure to cut off any overhanging nails as close to the surface as you can; then sand them flush to avoid scratching or catching on the table.



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Quick & Easy Tree Puzzle

**Freestanding
design can be
customized
for a fun gift**

By Sue Griffiths

I was inspired to create this puzzle when I realized two of our friends would be celebrating their 70th birthdays in two weeks. I wanted to make them something personal, but with the limited time frame, it had to be reasonably simple. I was reminded of the saying “70 is not old—if you’re a tree!” and started working on a design for the puzzle.

I looked at lots of pictures of trees and drew the shape freehand. I often use MDF (medium density fiberboard) for my puzzles because there is no grain or plies to break off, and its smooth finish is ideal for painting. The puzzle can be made from plywood or naturally finished hardwoods.

There are lots of ways you can personalize this pattern. Coordinate the number of pieces with the recipient’s age or create a puzzle “just for yew”—made from yew wood. Include apple-shaped jigsaw pieces for the apple of your eye (perhaps five apples for a five-year-old) or cut acorn-shaped pieces and write “tall oaks from little acorns grow” on the back for the new graduate. Add family members’ names to individual pieces for a family tree or add significant dates and events to create your own tree of life.



Step 1: Prepare the wood. Seal and sand the stock. It is easier to begin with smooth wood rather than trying to smooth the small jigsaw pieces. Attach the pattern to the wood.

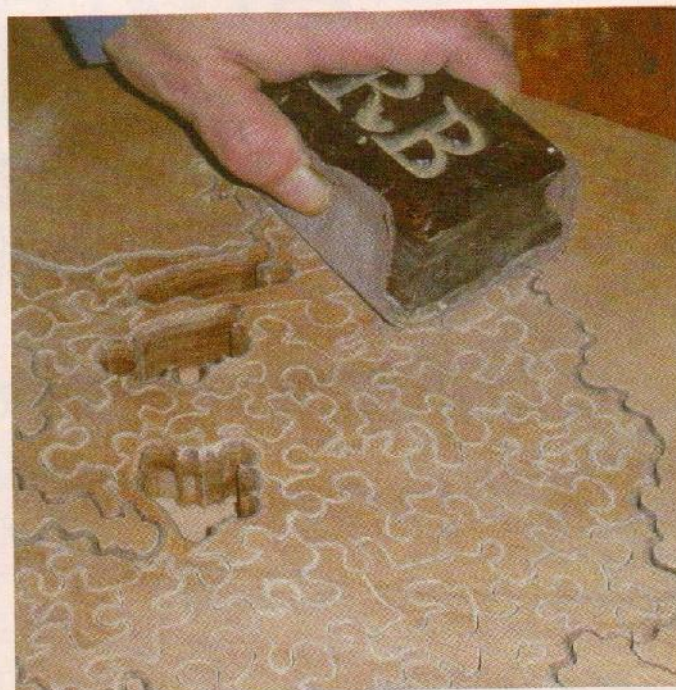
Step 2: Make sure the saw table is square to the blade. Use a small square. If your table is not square, it will be difficult to assemble the puzzle.

Step 3: Cut the outline and open areas. Drill blade-entry holes and cut the open areas. Cut the perimeter of the tree and the base piece.



▲ Step 4: Shape the edges of the tree. Round the edges with a router and round-over bit. I use a Dremel router in a router table. Do not round over the bottom edges of the tree trunk or the base piece. Seal and sand the routed edges. This step is optional, but does give the puzzle a more polished look.

Step 5: Cut the puzzle pieces. Use the pattern provided, sketch your own puzzle pieces, or cut the pieces freehand. If the puzzle is intended for a small child, cut large pieces to prevent a choking hazard. The green lines on the pattern are deliberately thick. Use them as guidelines to make smooth flowing cuts. Once the pattern has been removed, variations won't be noticeable. Advanced scrollers can follow the traditional fine lines in the center of the green pattern lines. Adjust the slot in the base to match the thickness of the wood.



▲ Step 6: Prepare the puzzle for the paint. Remove the pattern. Seal and sand all of the edges. Assemble the puzzle and sand both sides with a sanding block.

Step 7: Paint the puzzle. Separate the trunk and base pieces and paint them brown. Do not paint the inside slot of the base. Divide the leaf pieces into three or four piles and paint the pieces in each pile a different shade of green to ensure a random distribution of color.

Step 8: Finish the puzzle. Allow the paint to dry. Assemble the puzzle, stand it up on its base, and spray with matte varnish. Sign or label your project on the bottom of the base piece. I create a label including a photograph of the assembled puzzle to aid the recipient and attach the label to the front of a box. I've also created laminated labels to attach to drawstring bags.

Materials & Tools

Materials:

- 1" x 8" x 10" plywood, MDF, or wood of choice
- Sanding sealer
- Assorted grits of sandpaper or sanding cloth (I use "Abranet" a mesh made in Finland)
- Acrylic paint: brown and 3 or 4 shades of green
- Spray matte varnish or finish of choice
- Box/bag and handmade label

Tools:

- #7 reverse-tooth blades or blades of choice
- Router with a round-over bit (optional)

Tree puzzle pattern



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Sue Griffiths lives in Ormesby, St Margaret on the Norfolk Broads, on the east coast of England. Sue and her husband, John, both work with wood. Sue started scroll sawing in 1995. Contact Sue at johnandsuegriffiths@mollyhawks.freemove.co.uk.

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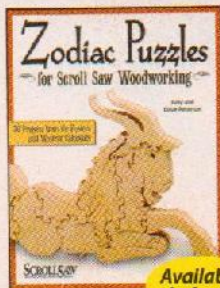
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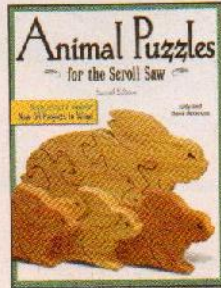
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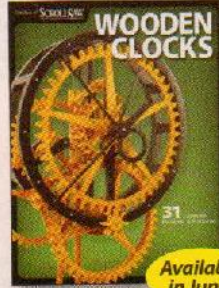


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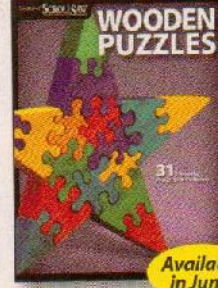
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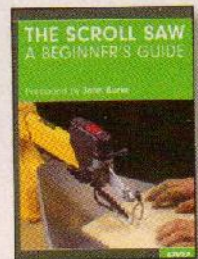
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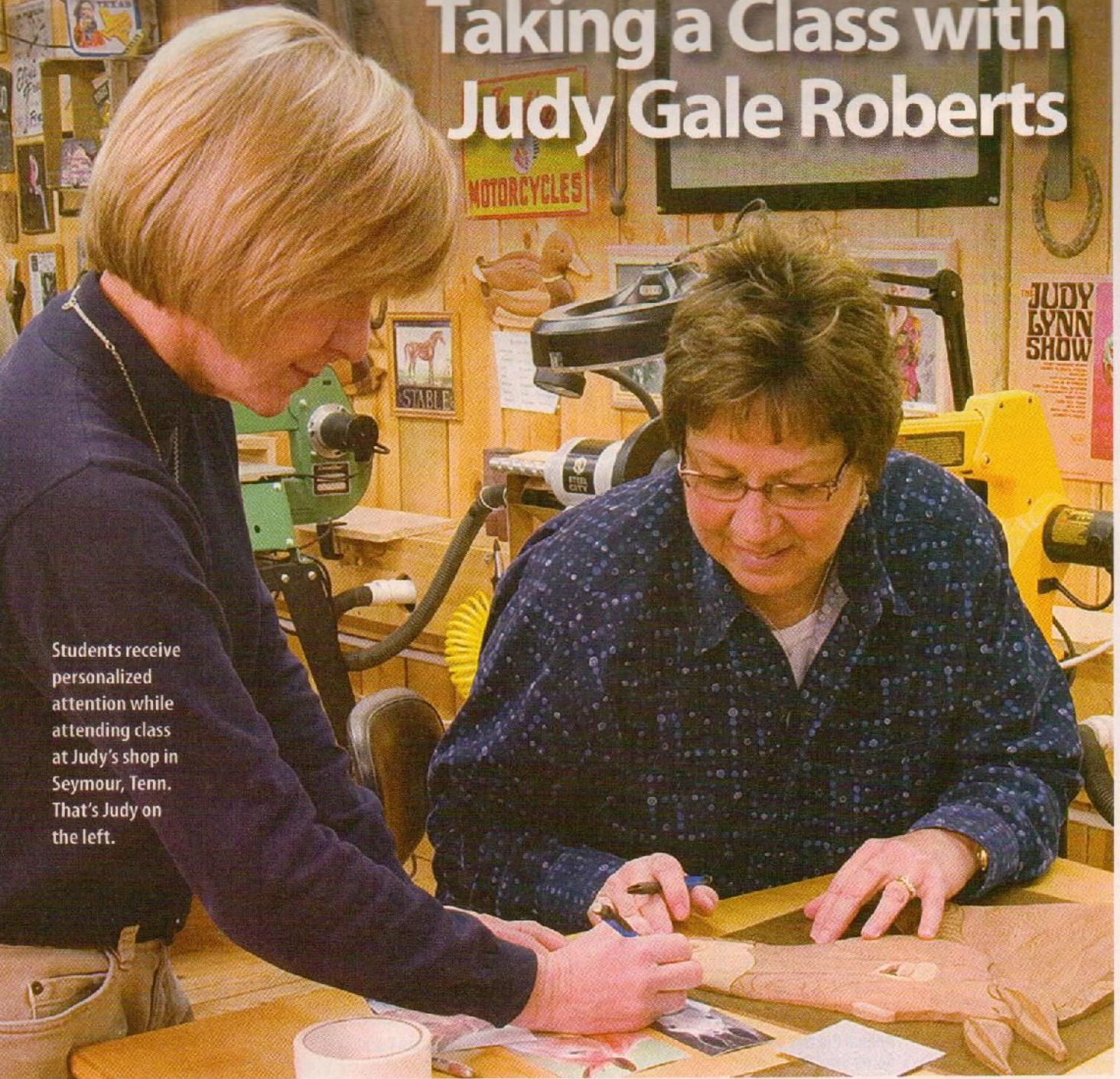
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Taking a Class with Judy Gale Roberts



Students receive personalized attention while attending class at Judy's shop in Seymour, Tenn. That's Judy on the left.

Intarsia master answers frequently asked questions

Many people credit Judy Gale Roberts for reintroducing the art of intarsia to the public. Judy has devoted her life to creating intarsia designs and teaching others how to create intarsia masterpieces. She was one of the first ten people inducted into the Woodworking Hall of Fame because of her passion for teaching, designing, and creating intarsia.

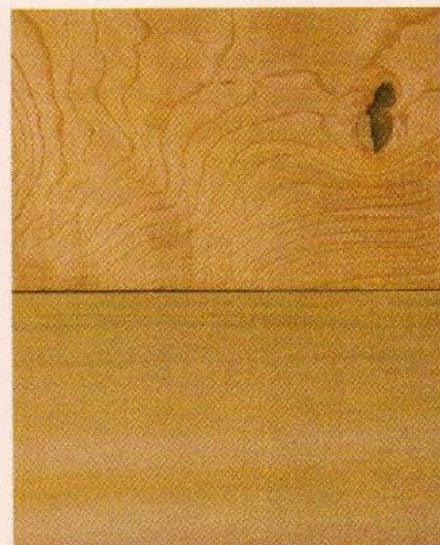
In addition to creating intarsia patterns, Judy maintains an intense teaching schedule at her home studio in Seymour, Tenn. In this article, Judy shares her wisdom with *SSW&C* readers by answering some of the questions most commonly asked by students in her intarsia classes.

Q. What kind of wood is best for intarsia?

A. Any species of wood will work. The color and grain configuration are the key factors in creating beautiful intarsia pieces. It is a good idea to have a combination of wood with straight grain along with more figured wood. About 90% of the wood I use is western red cedar, because it is lightweight, easy to work with, and comes in a variety of colors and figures. I use basswood for flesh tones, aspen for the lightest shades, and walnut for the darkest shades. I also use yellow heart and red heart on some of my projects.



Most projects require at least four different shades of wood. This photo shows the variety of colors you can find in western red cedar.



Intarsia requires a combination of highly figured and straight-grained wood. Both of these characteristics can be found in western red cedar, as illustrated above.

Q. How many shades of wood do you need?

A. I recommend at least four shades of wood for most projects. Of course, more variety is better. I like boards that vary in color from edge to edge. Boards that have lighter sapwood on one edge and gradually get darker across the board are great for shading.

Q. What is the best thickness of wood to use?

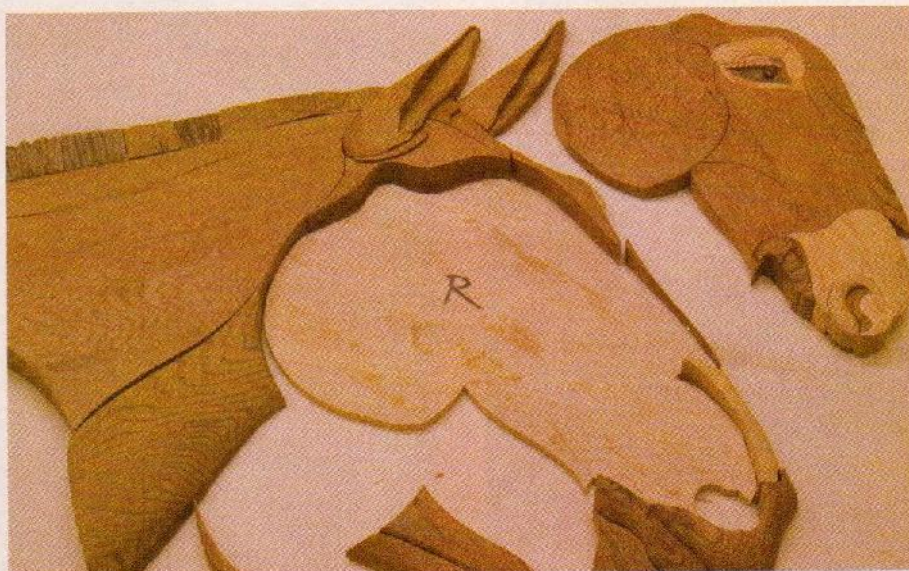
A. I use 3/4"-thick wood for nearly all of my projects. For more dimension, you can use thicker wood, but it is much harder to cut the parts square. The larger the project, the thicker the wood should be—otherwise, it will look flat. To add more depth, I'll often cut shims from plywood or scrap wood and insert them under some of the interior pieces.

Q. What size scroll saw blade do you use?

A. I use a #5 reverse skip-tooth blade for most of the intarsia pieces. The midrange size makes it easier to keep the blade cutting square. If I cut a large part into smaller parts that will go back together, I use a smaller blade. The smaller kerf helps the pieces fit together better. There are many different saw blades, and it is best to have a variety to choose from. From board to board, even within the same species, you may need to try different blades. What works on one piece of wood may not work well on a different piece.



Judy uses a #5 reverse skip-tooth blade. Reverse-tooth blades have teeth pointed in the opposite direction on the bottom, which produce cleaner cuts.



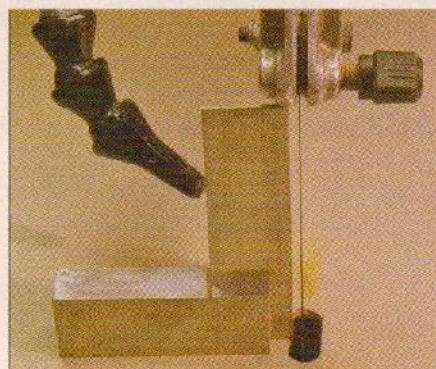
The shim (piece R) will lift the pieces forming the face, giving the illusion of thicker wood.

Q. Why don't my pieces fit together? Will cutting outside the line or re-marking pattern lines improve the fit?

A. Check to make sure your blade is square to the table of your saw. If the table and blade are square, check your cut parts with a square. If the sawn edge of a part isn't square with its flat face, you may be pushing too hard or trying to cut too fast. This happens more often when you cut a curve than it does when cutting straight parts. It is easy to apply pressure from the side to keep the blade on the line, which causes the blade to bend.

I do not recommend cutting heavy and sanding to the line. Most sanders do not sand square to the table. It may look like the parts fit on the surface, but when you start sanding the wood to various thicknesses, gaps will start to appear. This method usually requires more time trying to make the parts fit.

Nor do I recommend cutting a part and re-marking adjoining parts on the pattern. Occasionally, if a part is cut off a little, you can re-mark the adjoining part on the pattern. However, if you do this to each part and your placement is slightly off, the cumulative effect could be a disaster. If your project has 10 or fewer parts, you may be able to get away with it.



Your blade must be square to your saw table to produce close-fitting intarsia.

Q. What kind of sander works best for contouring intarsia pieces? What diameter drums and grits of sandpaper do you use on the sanders?

A. I equip my grinders with a variety of sanders. I have two pneumatic drum (inflatable) sanders, a Flex Drum sander, which has a foam core, and some small Kirges inflatable sanders I use for detailing.

The pneumatic drum and the Flex Drum sanders make it easy to contour the wood. I have an 8"-diameter by 9"-wide and a 2"-diameter by 8"-wide pneumatic sanding drum. On the larger drum I have a 100-grit sanding sleeve and the smaller drum has a 180-grit sleeve. The Flex Drum sander is 2½" in diameter by 7" wide.

I use the largest diameter drum to rough in the parts and remove wood quickly. The smaller drum removes the scratches from the larger drum. The smaller the diameter of the sander, the harder it is to make a smooth consistent contour. The Flex Drum sander is the smallest I use when sanding intarsia, especially when rough shaping the parts.

The small Kirges inflatable sanders are ¾" diameter by 1" wide and 1½" diameter by 1¾" wide. These sanders are used for detailing and sanding hard-to-reach areas. I have an 80-grit sleeve on the very smallest sander and a 220-grit sleeve on the larger one. After all of the parts are roughed in, I remove the cross-grain sanding marks with the larger sanders, and then I go over the surface using the 220-grit sleeve.



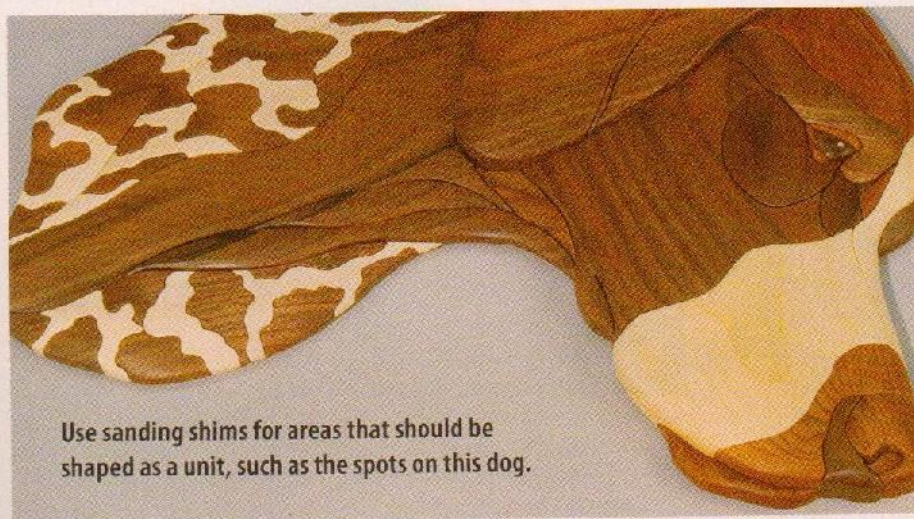
Judy uses an 8"-diameter drum with a 100-grit sanding sleeve to remove wood quickly.

Q. Where do I start sanding?

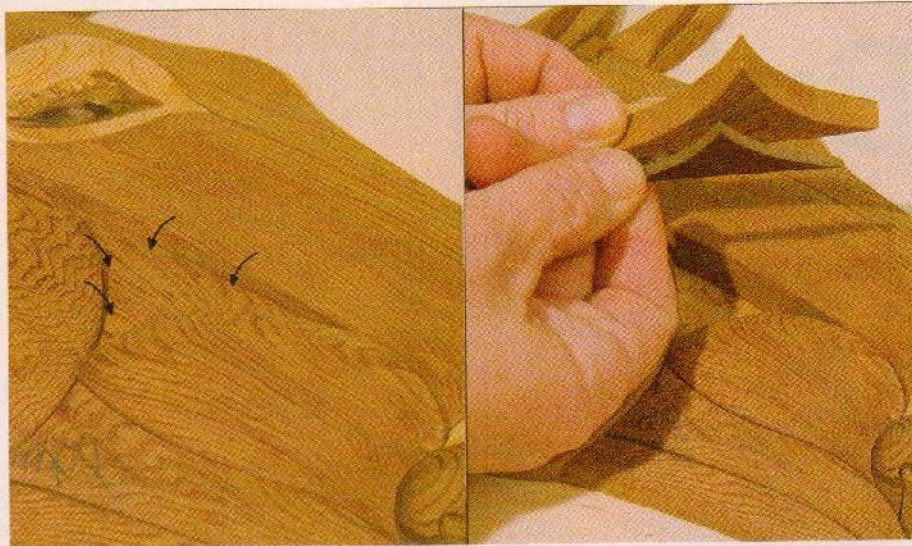
A. This is probably the number one question students ask. Take your time and study the project before beginning. Use reference photos of your subject matter to guide you. Once you sand the wood down, you can't put it back.

Do not start at one end and work your way to the other. Instead, think of the project in layers and start on the background elements or the lowest parts of the project. You need to have at least three thicknesses of wood to give your project dimension. Sand as much as you can off of the background parts to give you more freedom when shaping the foreground sections. Don't just round the edges, but work to reduce the thickness of the entire piece. Rough in the entire project, focusing on the dimensional aspect, before adding details.

Just because the color changes does not mean the contour changes. I use sanding shims or backers to shape multiple parts as a unit. To create a sanding shim, cut scrap wood or plywood to the size of the parts you want to sand as a unit. Use light-duty double-sided carpet tape to hold the parts onto the shim as you shape them.



Use sanding shims for areas that should be shaped as a unit, such as the spots on this dog.



The arrows (left photo) show a piece that has been sanded too thin. Cut a shim to fit under the piece (right photo) raising the piece to the correct height.

Q. I sanded off too much wood. Is there anything I can do now?

A. If the pieces that are too thin are interior parts, you can cut shims to raise them. If it is an exterior part, it is more difficult. You may be able to sand the parts around it thinner, but it is probably easier to re-cut the part. You can spend an hour trying to make it work when it may only take 10 minutes to re-cut the part. The only other option would be to make a shim out of the same wood you are raising. Match up the grain on the outside edges to make it less noticeable.

Q. Do you glue the parts to a backing board or edge glue the parts together?

A. I use a backing board on all of my intarsia projects. This ensures your project will stay together for many years to come. Using a backing board also allows the wood to expand and contract with the humidity. Edge gluing can put the wood in a bind and cause parts to crack when the weather changes. I do edge glue some small parts together, such as the parts of an eye.

ONLINE BONUS

Judy shares tips on pattern transfer & finishing.
www.scrollsawer.com



Judy Gale Roberts, born in Houston, Tex., has long been recognized as the leading authority on intarsia. Judy was one of the first 10 people to be inducted into the Woodworking Hall of Fame. For more of her work or information on classes held at her

home studio in Seymour, Tenn., visit www.intarsia.com. Judy's numerous intarsia books are available at www.FoxChapelPublishing.com.

Build a Realistic Crab

**BEST
PROJECT**
DESIGN CONTEST
FINALIST
SCROLL SAW WOODWORKING & CRAFTS

Connect individual segments for a three-dimensional crustacean

By Deborah Nicholson

I live on a canal that leads out to the Gulf of Mexico, and the sea creatures in my area are numerous. I find them all interesting, but my favorite is the crab because there are so many different kinds, shapes, and colors. The way the crabs move and pose fascinates me, and I was compelled to capture their likeness in intarsia.

You can create a traditional intarsia crab using 1"-thick wood for all of the pieces. Assemble the crab on a backing board for a flat piece of art. The wire reinforcements used in the legs of the 3-D version are not necessary for a flat crab. Both the flat and

3-D versions make great wall hangings, but the 3-D version is ideal for display on a shelf or end table. Add a few seashells or a decorative net for a fun coastal display.

The body of the 3-D version is created by gluing two 1"-thick pieces of stock together. I glue up the blanks for the body before cutting. If your saw is not capable of cutting 2"-thick stock, or you are not comfortable cutting thick wood, cut two body pieces individually and glue them together before shaping. Transfer the pattern using your method of choice. I trace the pattern directly on the stock.

3-D CRAB: CUTTING AND SANDING

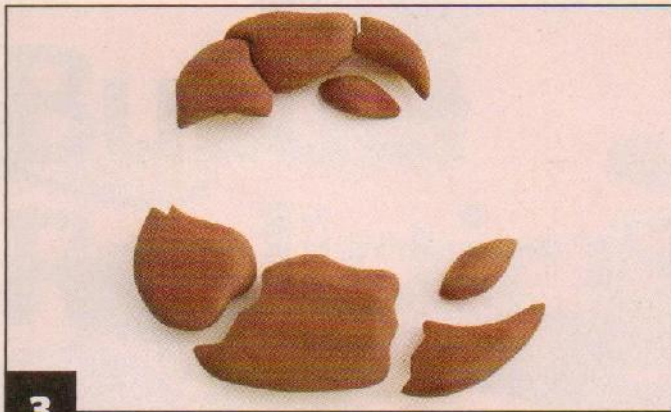


1 Cut and shape the body. Cut around the perimeter of the body and then cut off the eyes. Shape and round all four sides of the body using a 50-grit sanding belt. The body is thickest in the center and tapers out to the sides. Use the round part of the belt sander to create an indent above the eye area.



2 Finish sanding the eyes and body. Switch to an 80-grit sanding belt to smooth the surface. Round both ends of the eyes. I keep the eyes as long as the body, but you can cut the eye segments to create round eyeballs. Sand everything smooth with a palm sander equipped with 150-grit sandpaper.





3 **Cut the legs and claws.** Cut one leg at a time and shape the pieces for each leg at the same time. Round them the whole way around. Sand them smooth with finer-grit sandpaper like you did with the body. For the flat intarsia, do not round the bottom of the leg segments where they will be glued to the backing board.



4 **Drill holes to reinforce the legs.** Reinforce the leg joints with a 1/4"-long piece of 14 gauge wire. Drill a 5/64"-diameter by 5/8"-deep hole where the leg sections join and where the legs meet the body. Draw a pencil line to show the angle of the first hole and use that line to mark the position of the hole on the next section.

3-D CRAB: ASSEMBLING AND FINISHING



5 **Glue the legs together.** Start with the front legs and work backward, assembling the claws last. Prop the body up on scrap wood to create the desired pose. Apply glue to each wire and slide the pieces into place. The end of each leg should touch the ground. Allow the glue to dry after each leg is assembled.



6 **Finish the crabs.** Reinforce the joints with a few drops of glue. Paint the eyes and claws with black acrylic paint and glue them in place. If you cut the crab from pine, add some extra color with a wash of burnt sienna acrylic paint followed by a wash of red acrylic paint. Apply a clear spray finish to seal the project.

Materials:

- 1" x 10" x 12" red cedar or wood of choice (flat crab)
- 1/4" x 10" x 12" hardboard (backing board for flat crab)
- 1" x 10" x 18" red cedar or wood of choice (3-D crab)
- 14-gauge wire (3-D crab)
- Acrylic paint: black, burnt sienna, red
- Clear spray finish
- Assorted grits of sandpaper

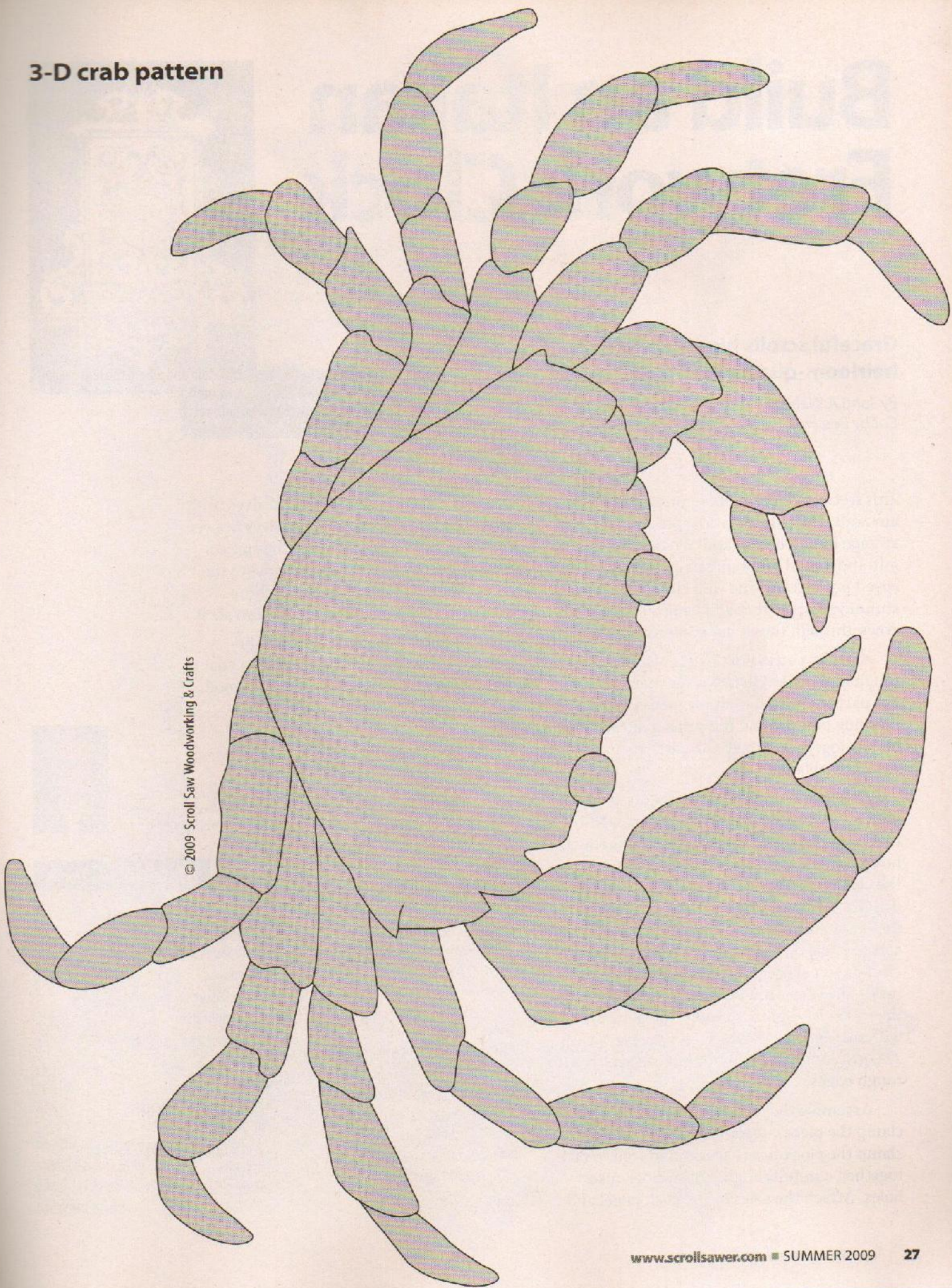
Materials & Tools

- 50-grit & 80-grit sanding belt
 - Wood glue
- Tools:**
- #5 reverse-tooth blades or blades of choice
 - Drill with 5/64"-diameter drill bit
 - Belt sander, palm sander, or sanding tools of choice



Deborah Nicholson lives in Hernando Beach, Fla. A life-long artist, Deborah has a teaching degree in art from Western Illinois University. She works in many different mediums and often combines mediums in her artwork.

3-D crab pattern



© 2009 Scroll Saw Woodworking & Crafts

Build an Italian Fretwork Clock



Graceful scrolls highlight this heirloom-quality wall clock

By John A. Nelson
Cut by Ben Fink

Patterns for the *ITALIAN FRETWORK CLOCK* are in the pattern pullout section.

This fretwork clock adds a vintage flair to any wall. The pattern is adapted from a vintage Italian design and makes a wonderful gift. Individual sections can be stack cut to speed production. The wall clock makes a stunning display that will be proudly passed down through future generations.

Start by cutting the materials to the rough dimensions listed in the materials list. For parts requiring multiple pieces, wrap masking tape around the stock to attach two blanks together. Attach the patterns to the respective blanks.

Drill blade-entry holes as required with a $\frac{1}{16}$ "-diameter drill bit. Thread a #3 reverse-tooth blade through the blade-entry holes and cut the frets. Drill the holes in the clock insert spacer with a $\frac{5}{32}$ "-diameter drill bit. After cutting the frets, cut around the perimeter of each piece. Finally, cut the center circle on the back, the front, and the clock insert spacer. You can cut slightly inside the circle and sand up to the line so the insert fits tightly. Remove the patterns with mineral spirits and sand the pieces with 220-grit sandpaper to remove any fuzzies or rough edges.

Assemble the clock with wood glue and clamp the pieces in place until dry. Glue and clamp the clock insert spacer and front panel together, carefully aligning the clock insert holes. Attach the sides to the back panel and

then attach the top and bottom shelves to the assembly. The slots in the shelves fit over the tabs in the sides. Assemble the spacers next and then attach the front panel to the spacers. Glue the braces to the backing board, fitting the tabs into the bottom shelf.

Brads can be used to reinforce the assembly. After the glue dries, apply a coat of spray lacquer to seal and protect the wood.

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



Materials & Tools

Materials:

- $\frac{1}{4}$ " x 12" x 16 $\frac{1}{2}$ " wood of choice (back)
- 2 each $\frac{1}{4}$ " x 2 $\frac{3}{4}$ " x 10 $\frac{1}{4}$ " wood of choice (sides)
- $\frac{1}{4}$ " x 2 $\frac{1}{2}$ " x 11" wood of choice (bottom shelf)
- $\frac{1}{4}$ " x 2 $\frac{1}{2}$ " x 7" wood of choice (top shelf)
- 2 each $\frac{1}{4}$ " x 1 $\frac{3}{16}$ " x 5 $\frac{1}{16}$ " wood of choice (spacers)
- $\frac{1}{4}$ " x 6" x 9 $\frac{3}{4}$ " wood of choice (front)
- 2 each $\frac{1}{4}$ " x 2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " wood of choice (braces)
- $\frac{1}{4}$ " x 4 $\frac{1}{4}$ " x 4 $\frac{1}{4}$ " wood of choice (clock insert spacer)
- 3 $\frac{5}{16}$ "-diameter clock insert (Klockit #15561)
- Sandpaper, 220 grit
- Wood glue
- Spray lacquer
- Spray adhesive
- Mineral spirits

Tools:

- #3 reverse-tooth blades or blades of choice
- Drill with $\frac{1}{16}$ "- and $\frac{5}{32}$ "-diameter drill bits
- Assorted clamps



Choose wood to complement your décor. This clock is cut from cherry.

Majestic Elephant Mosaic

**BEST
PROJECT**
DESIGN CONTEST
FINALIST
SCROLL SAW WOODWORKING & CRAFTS

Capture the personality of this noble creature with easy segmentation techniques

By Susan Mathis

I enjoy creating realistic wildlife portraits and decided to challenge myself with an elephant portrait. The lines and wrinkles in an elephant's face are well suited for a mosaic treatment. The trick was capturing the creature's proud majestic look.

I cut the trunk into several pieces and stagger the sections for additional dimension. I support the trunk pieces with dowels and biscuits. For a simpler project, you can leave the trunk solid.

Number the pieces as you cut them. Sand and shape the individual pieces as desired. I add $\frac{1}{8}$ "-thick shims under the right ear, the face, and the trunk to add more depth. Using the photo as a reference, color the pieces with thinned acrylic paint. I use light gray, medium gray, and dark gray for the head, white for the tusks, and black for the eyes. Add a dot of undiluted white to the eyes to make them sparkle. Glue the project together and glue it to a backing board. I create the backing board for the trunk in sections and follow the contour of the trunk. Spray the project with one coat of sealer and let it dry completely.

To bring the portrait to life, I apply a wash of stain before the final coat of sealer. Practice this technique on a piece of scrap wood first. Working quickly, one section at a time, apply black stain with a brush or a rag. Wipe a little stain off with a clean rag. The amount you remove is up to you. Use the same technique on the rest of the project. Let the stain dry completely and apply a coat of spray sealer.



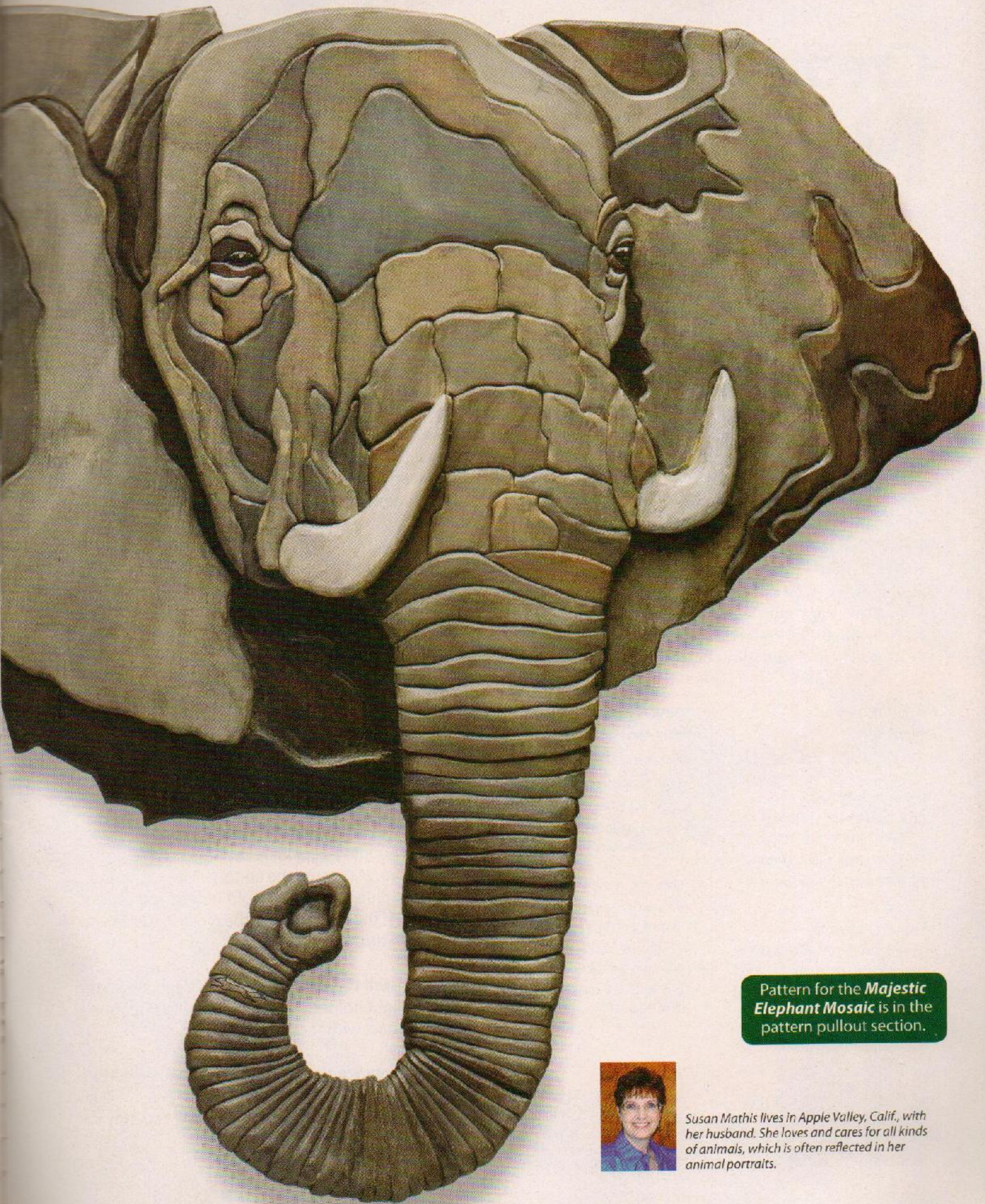
Materials & Tools

Materials:

- $\frac{3}{4}$ " x 20" x 22" pine or wood of choice
- Assorted $\frac{1}{8}$ "-thick pieces of scrap (shims)
- $\frac{1}{4}$ " x 20" x 22" hardboard or plywood (backing board)
- Spray adhesive
- Acrylic paint: white, black, light gray, medium gray, and dark gray
- Soft cloth
- Assorted paintbrushes
- Wood glue
- Sandpaper
- Black stain
- Flat spray lacquer or sealer of choice
- Dowels or joint biscuits (optional to reinforce trunk)

Tools:

- #5 reverse-tooth blades or blades of choice
- Hand rotary tool (optional for shaping)
- Drill with bit to fit dowels or router with biscuit-joint bit (optional)



Pattern for the *Majestic Elephant Mosaic* is in the pattern pullout section.



Susan Mathis lives in Apple Valley, Calif., with her husband. She loves and cares for all kinds of animals, which is often reflected in her animal portraits.

Create a Heavenly Night Light

3-D angel and moon design brightens any room

By Tom Sevy Design by Volker Arnold

This simple slotted design is easy to cut and assemble. The project makes a thoughtful gift for a new baby and will help parents avoid stubbing their toes during the night. Young children can sleep tight as their guardian angel watches over them with a peaceful glow.

The thin veining lines let light shine through the design, illuminating the room softly. Spiral blades provide a wide kerf so the light can shine through, but spiral blades can be difficult to control. I recommend making the initial cuts with a small flat blade and then recutting along the lines with a spiral blade. The initial cut lines help keep the spiral blade on track.

Materials:

- 2 each $\frac{1}{8}$ " x $9\frac{1}{2}$ " x 11" Baltic birch plywood or wood of choice (moons)
- $\frac{1}{8}$ " x $7\frac{1}{2}$ " x 10" Baltic birch plywood or wood of choice (angel, bottom, light holder, spacer)
- Cyanoacrylate glue or glue of choice
- Assorted grits of sandpaper

SPECIAL SOURCES:

Light sets can be obtained from:
National Artcraft: 888-937-2723
Novelty Lights Inc.: 800-209-6122

Materials & Tools

- Finish of choice (optional)
- Light set with single light
- Spray adhesive
- Masking tape (to attach blanks for stack cutting)

Tools:

- #2 reverse-tooth blades or blades of choice
- #1 spiral-reverse blades or blades of choice
- Drill with $\frac{1}{16}$ "-diameter or smaller bit



Fit the slots into the tabs for a 3-D effect.

Step 1: Cut the angel and moons.

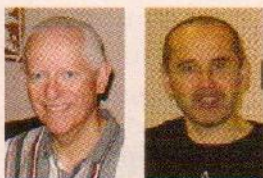
Use masking tape to stack two pieces of stock together for the moons that will form the sides. Attach the pattern and drill the blade-entry holes. Cut the interior frets and veining lines first. Then cut the perimeter of the angel and moon.

Step 2: Cut the remaining pieces. Cut the hole in the light holder to fit your light set. The pattern has a 1"-diameter hole, but your light set might require a different size. Cut the tabs carefully so they fill the slots tightly. You can cut slightly outside the tab lines and sand them to fit the slots.

Step 3: Glue the project together. Use cyanoacrylate (CA) glue. Match the labeled tabs with their corresponding slots. Glue the angel to the slots in the bottom. Make sure the angel will be facing the moon. Then glue the bottom, light holder, and spacer to one side of the moon. When the glue is dry, add the other side of the moon.

Step 4: Install the light. Insert the light fixture in the hole in the light holder. Make sure the bulb does not come in contact with the wood.

Step 5: Apply your finish of choice. I chose to leave the project unfinished. Many finishes can give the wood a yellowish color. For a more durable project, apply an oil finish or a clear spray finish.

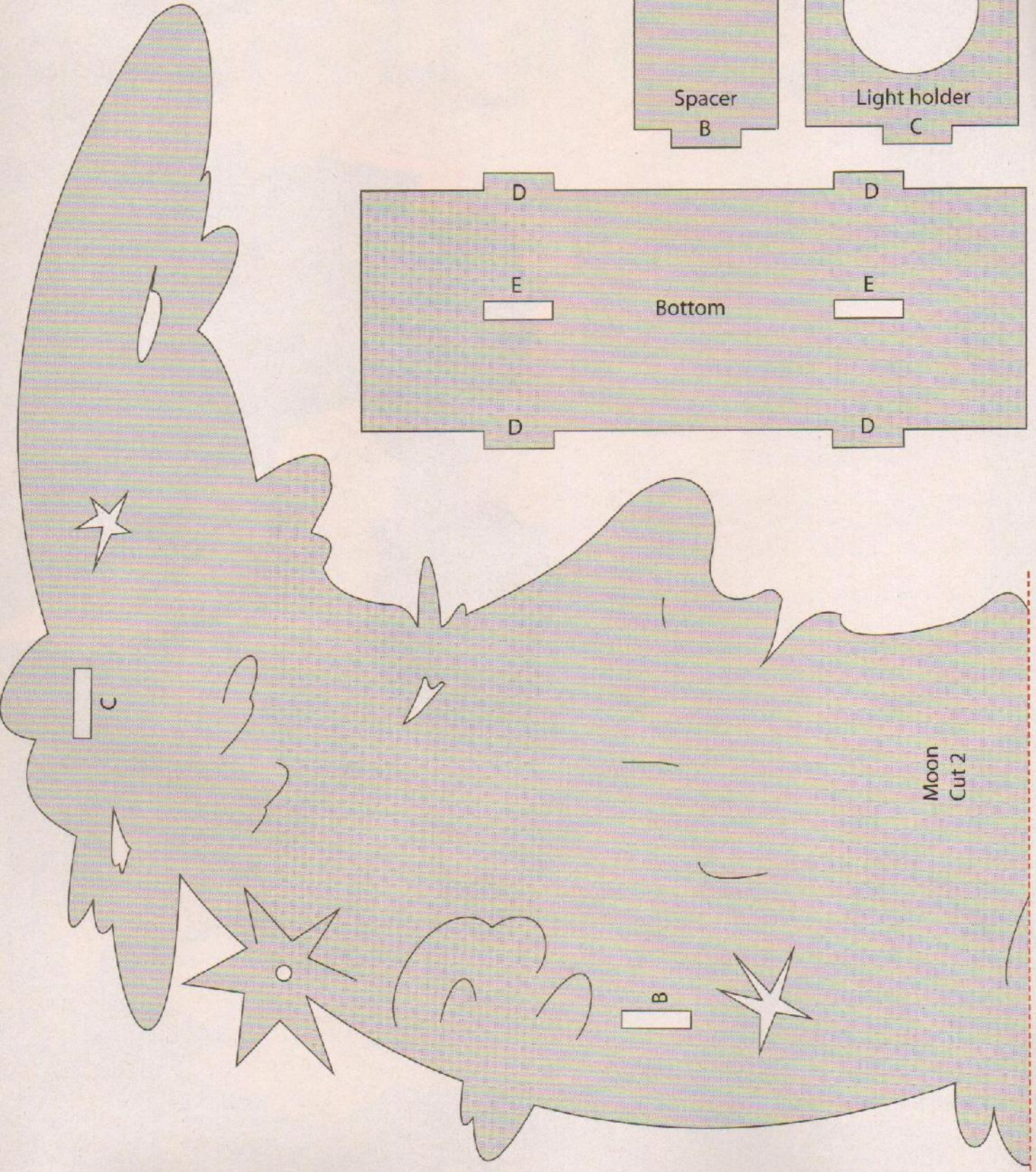
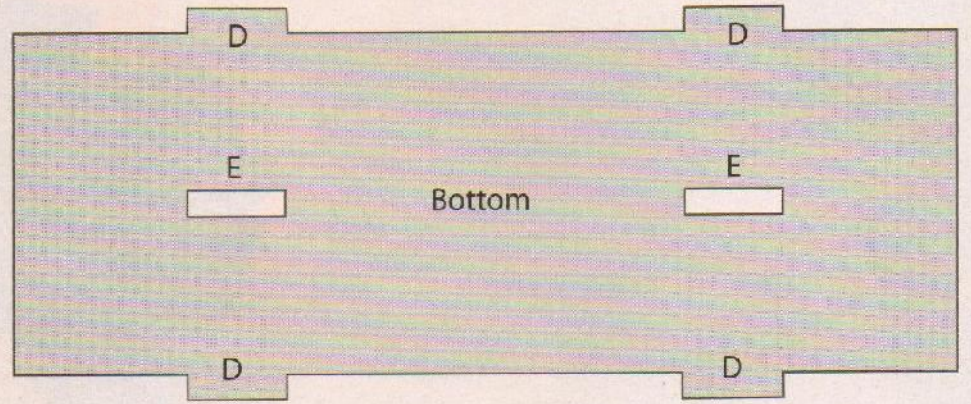
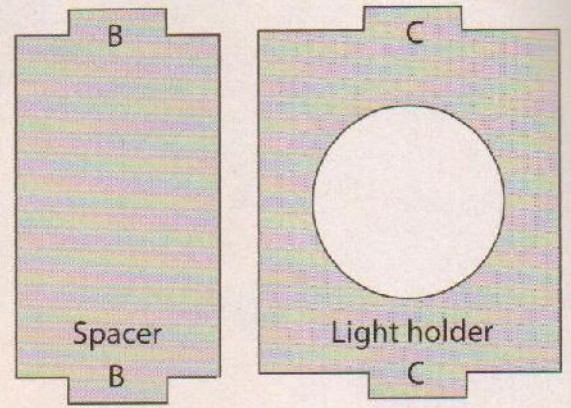


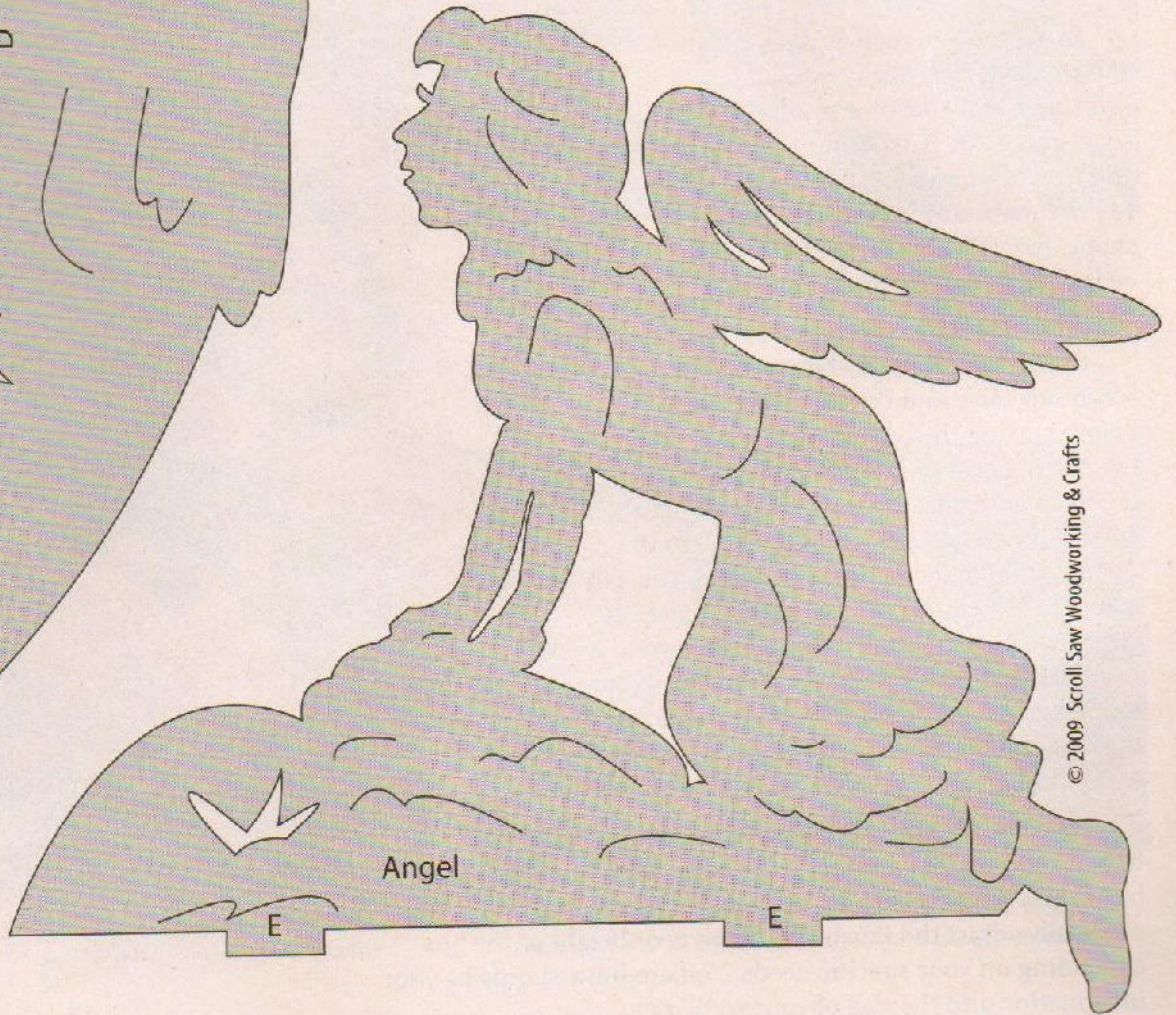
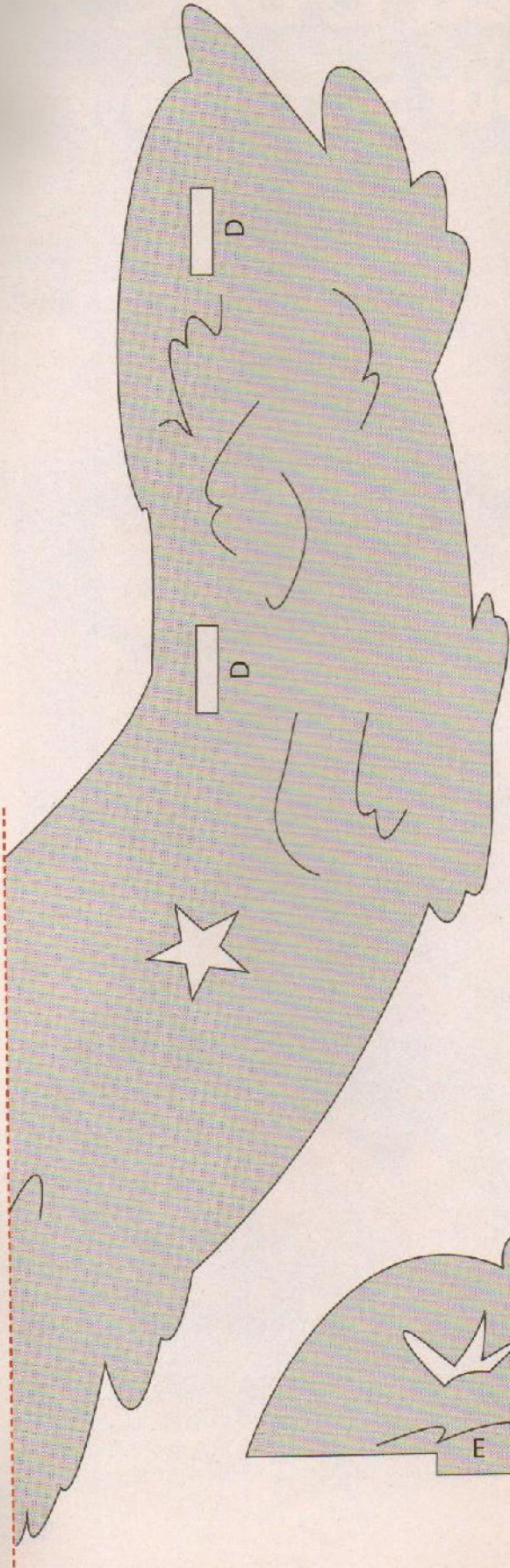
Tom Sevy (left) lives in Utah and can be contacted at sevy99@mstar2.net. Based in Dresden, Germany, you can visit Volker Arnold's Website at www.va-holzkunst.de.



Celestial night light is perfect for casting a soft glow in baby's room.

Heavenly night light pattern





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Creating Beautiful Boxes with Your Scroll Saw

Stylish teardrop box is a miniature version of popular band saw boxes

By Thomas Haapapuro

Process photography by Greendoor Imaging

The process to make these impressive boxes is simple. The entire box can be created using only a scroll saw, a few blades designed for thick wood, and sandpaper. The boxes require a relatively low investment in time and materials. Create one out of beautifully figured wood for a gift. You can tuck a special piece of jewelry into one of the drawers for a unique presentation.

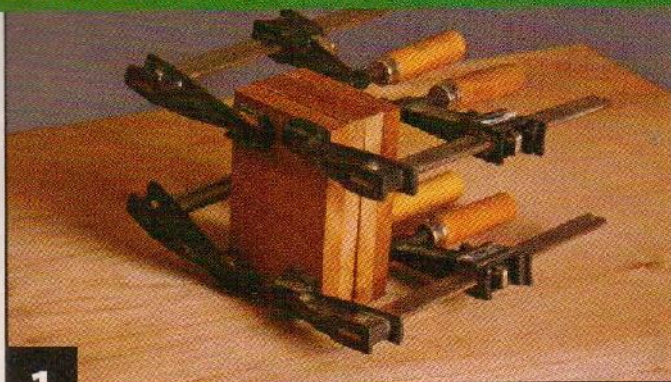
Softer woods, such as pine, cedar, and soft maple, are easy to sand and shape and give nice results. Hardwoods, such as walnut, cherry, and oak, are also acceptable, but require more time to cut, sand, and shape. For this box, I use eastern red cedar because of its workability and rich reddish color.

Check the clearance between your scroll saw table and the top of the blade before cutting the boards for the box. Push the cutting arm on the saw down as far as it will go and measure the distance with a ruler. My saw has a clearance of $3\frac{1}{4}$ ", so the maximum thickness for my box is 3". You can adjust the thickness of your box to match the clearance of your saw by adding extra wood or using less wood. Make sure your blade is square to the saw table and don't push the wood or bow the blade. If the cuts are not square, your drawers will not function correctly.

Experiment with different shapes and sizes once you have a good understanding of the basic techniques. This box is just the right size for a few select pieces of jewelry. You can easily adjust the size of the drawers or height of the box depending on your specific needs. You are limited only by your imagination and the size of your scroll saw.



BOX: PREPARING THE STOCK

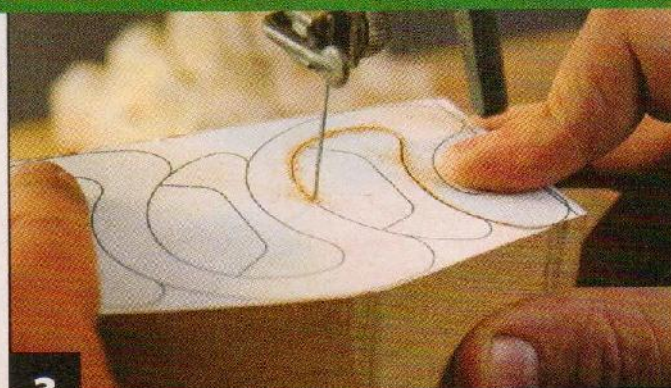


1 Prepare the stock. Cut the stock to size as listed in the materials list. Spread wood glue evenly over the inside faces of the two outer boards and both faces of the two center boards. Clamp the boards tightly together and allow them to dry for at least one hour. Attach the pattern to the block.



2 Cut the back. Draw a line $\frac{1}{4}$ " in from the back of the block. Cut along this line with a blade designed for cutting thick wood, such as an Olson thick wood blade. Set your saw speed as fast as possible. Rip cuts like this take time on a scroll saw, so do not rush. Follow the line as closely as possible.

BOX: CUTTING THE DRAWERS



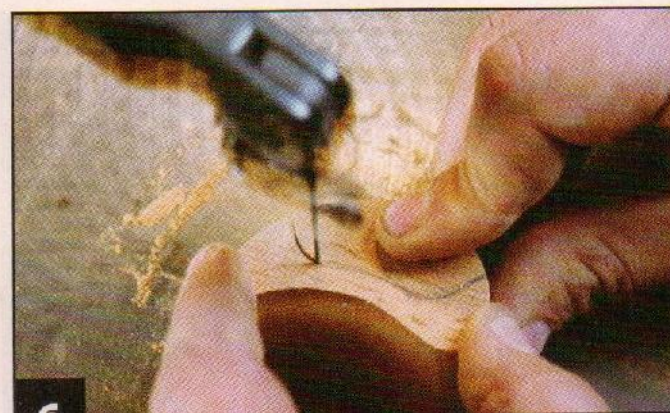
3 Cut the drawers. Set the back of the box aside. Cut out the drawers using a thick wood blade. Follow along the red pattern lines. Do not cut around the perimeter of the box. Leave the waste wood intact to help support the box sides. Take your time and be careful as you cut.



4 Mark the drawers. The drawers will be cut into three sections. Label the drawers 1 through 3 and mark the same number on each drawer in the front, middle, and the back. These numbers will help keep the pieces organized. Glue and clamp the back panel cut in step 2 back onto the rear of the box sides.

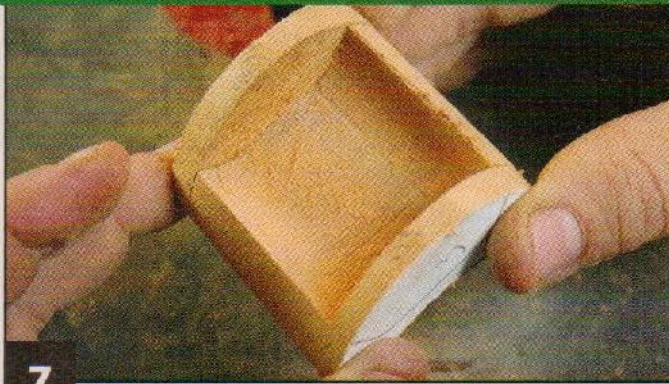


5 Separate the drawers. Draw lines $\frac{1}{4}$ " in from the front and back of each drawer. Cut along these lines to separate the three sections. Make sure each piece is labeled with the drawer number.

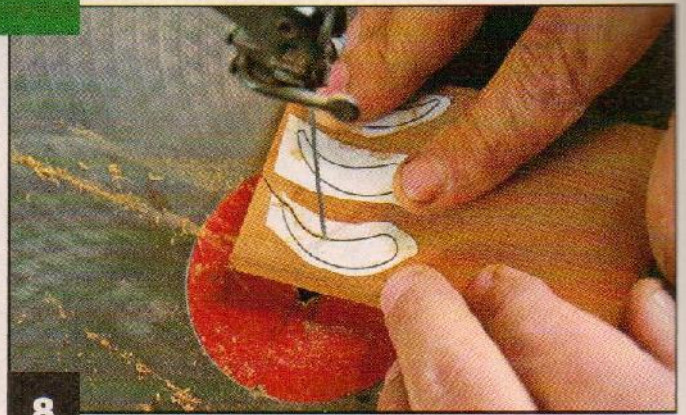


6 Cut the drawer pockets. Trace the blue pattern lines onto the middle section of each drawer. Cut along the lines and discard the scrap. Sand the inside of the pockets with 150-grit sandpaper.

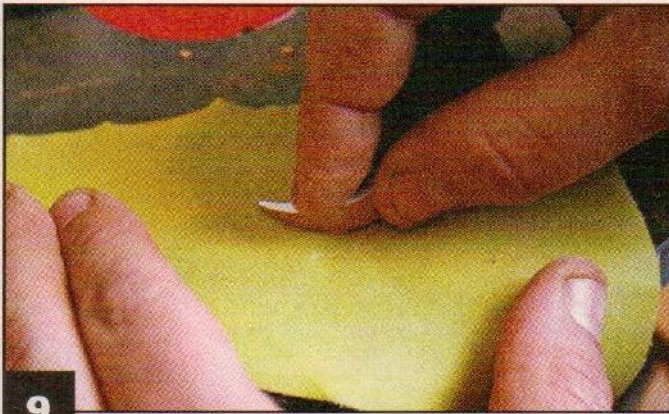
BOX: ASSEMBLING THE PROJECT



7 **Assemble the drawers.** Use the numbers from step 4 to make sure you have the correct front and back for each middle section. Spread glue evenly on both sides of the middle section and clamp the front and back in place on each drawer.



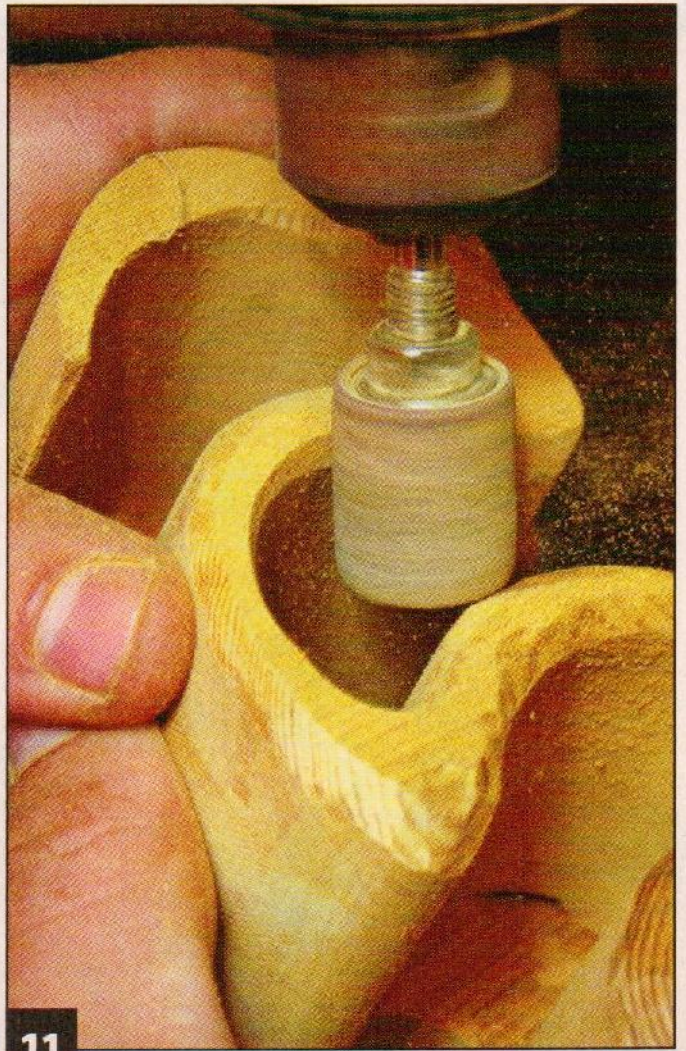
8 **Cut the drawer pulls.** Attach the drawer pull patterns to the appropriate stock. Tilt the left side of the saw table down 15° and follow the directional arrows as you cut the drawer pulls. The pattern side of the pulls will be glued to the drawers.



9 **Sand the drawer pulls.** Remove the patterns. Smooth the pulls with 150-grit sandpaper. Sketch the green lines from the pattern onto the back of the box in the openings where the drawers will be inserted.



10 **Cut the box sides.** Cut along the black pattern lines and the lines you drew in step 9. The cuts made on the green lines will not be visible when the drawers are in place. Test the fit of the drawers and remove the patterns.



11 **Shape the pieces.** I use a 1"-diameter sanding drum in a drill press. Rough sand every corner and edge at a 45° angle. Don't be afraid to sand aggressively. The more you shape the piece, the better the box will look. Shape the box sides and the drawers.

BOX: FINISHING THE PROJECT



12

Sand the pieces smooth. Hand sand the box with progressively finer grits of sandpaper from 60 to 220 grit. I usually spend a couple of hours on this step. The more time spent smoothing the pieces, the softer the box will look. Remove the dust and attach the drawer pulls with wood glue.

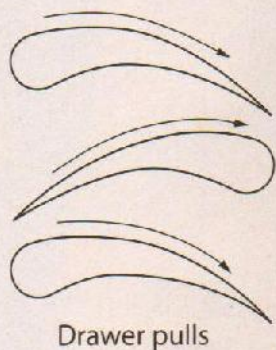


13

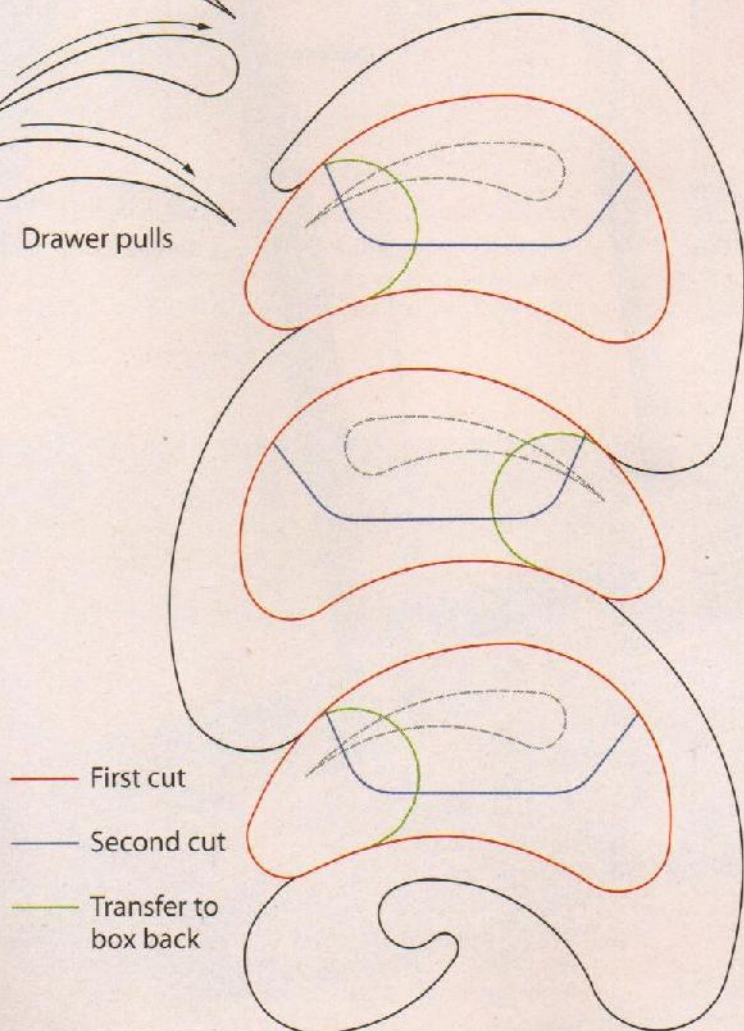
Apply the finish. I apply several liberal coats of tung oil, wiping up the excess each time. When the oil is dry, buff it to a soft sheen with a buffer chucked in a drill press. I prefer to leave the inside of the drawers natural, but you can add flocking or a lining of your choice.

Box pattern

After gluing the back on the box sides, trace the green pattern lines on the back. Follow the green and black lines to cut the profile of the box sides.



Drawer pulls



— First cut

— Second cut

— Transfer to box back



Materials & Tools

Materials:

- 4 each $\frac{3}{4}$ " x $3\frac{1}{2}$ " x $5\frac{3}{4}$ " eastern red cedar or wood of choice (box)
- $\frac{1}{4}$ " x 3" x 3" eastern red cedar or wood of choice (drawer pulls)
- Assorted grits of sandpaper
- Wood glue
- Spray adhesive
- Tung oil

Tools:

- Olson thick wood blades or blades of choice
- Sanding drum
- Drill press
- Clamps
- Buffing wheel for drill press



Thomas Haapapuro is a self-taught woodworker and sculptor who draws upon his education and experience as a landscape architect to fuse the organic shapes of nature with the pattern and balance of contemporary architecture. Thomas lives and works in Charlotte, N.C. For more of his work, visit www.thaapdesigns.com.

Building a 3-D Sailboat

Use shaping techniques and dowels to create this impressive wooden boat

By George North

This 3-D sailboat makes a spectacular centerpiece for your mantel. It is a perfect gift for the special sailor in your life. I have crafted two sailboats and four clipper ships as gifts for family members. While you don't normally think of wood when you envision billowing sails, careful shaping can create a dramatic effect.

This is not a beginner project and will require an investment of your time. I use several tools the average scroll sawyer may not have, such as a woodcarving disc in an angle grinder and a band saw. In nearly every case, you can use a different tool to achieve the same result, but it may take a bit longer.

Our designer, Jon Deck, was so impressed with George's sailboat that he set out to make one himself. Jon used redwood for the hull and poplar for the sails.

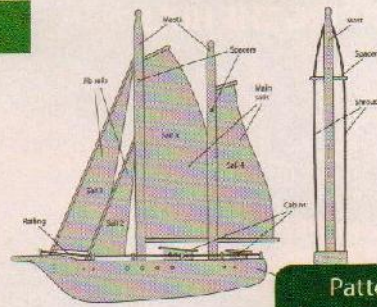


3-D SAILBOAT: PREPARING THE HULL



1

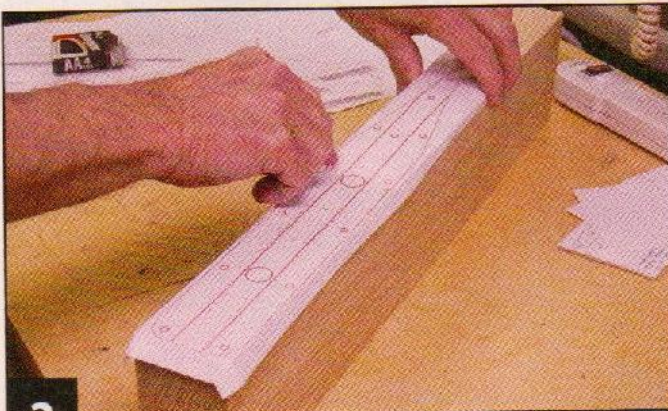
Prepare the hull stock. Glue together three 1¼" by 4" by 22" pieces of red oak. If you plan to sand the hull to shape instead of using a band saw, reduce the length of the two outside pieces to 13½". Use clamps or weight to hold the pieces together as the glue dries overnight.



Patterns and assembly drawings for the **3-D Sailboat** are in the pullout section.

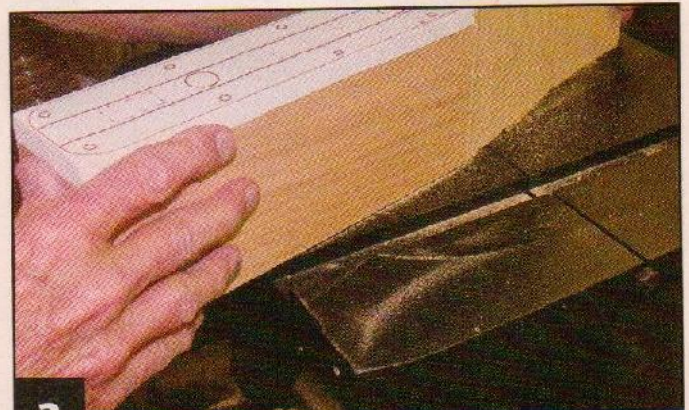
TIP WEIGHTS FOR GLUE-UPS

I buy 25 pound bags of shot from a gun store. Remove about 5 pounds of shot from the bag and sew the bag closed again. The remaining shot is heavy enough to hold pieces in position, but flexible enough to form to a variety of thicknesses and shapes.



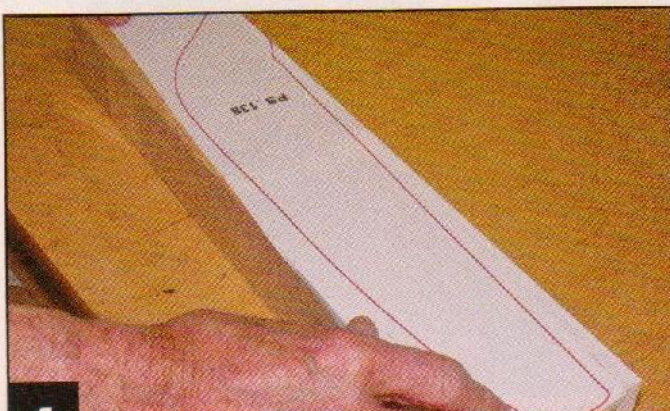
2

Attach the top-view pattern. Draw a centerline down the middle board to aid in aligning the pattern. Apply spray adhesive to the back of the top-view pattern and attach it to the wood.



3

Cut the top profile of the hull. I use a band saw, but you can sand it to shape with a belt sander. Keep the two waste pieces and tape them back in place with clear packaging tape to provide a flat surface so you can cut the side view.



4

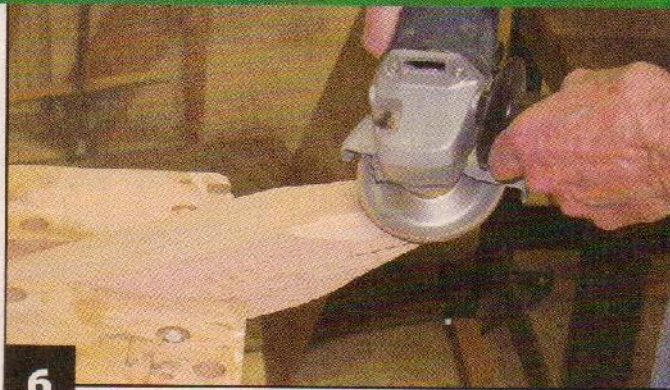
Attach the side-view pattern. Trace the side-view pattern onto the side or attach the pattern with spray adhesive. If you sanded the hull to shape, tape a piece of scrap wood under the front to act as a shim, cut the side-view pattern in half, and align the front and back of the side-view pattern with the front and back on the top-view pattern.



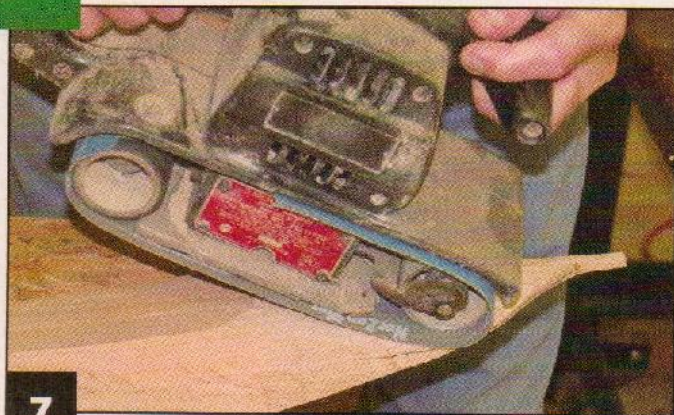
5

Cut the side view. Use a band saw, sand the pieces to shape, or cut the side profile on a scroll saw using a large blade. If using a scroll saw, take your time and let the blade cut without forcing the wood. Remove any waste or scrap wood taped in place.

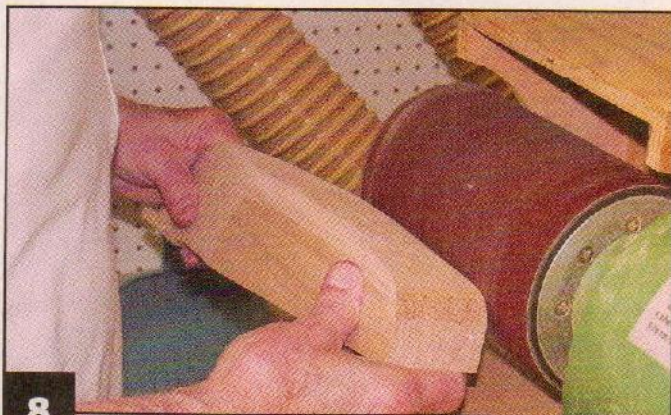
3-D SAILBOAT: SHAPING THE HULL



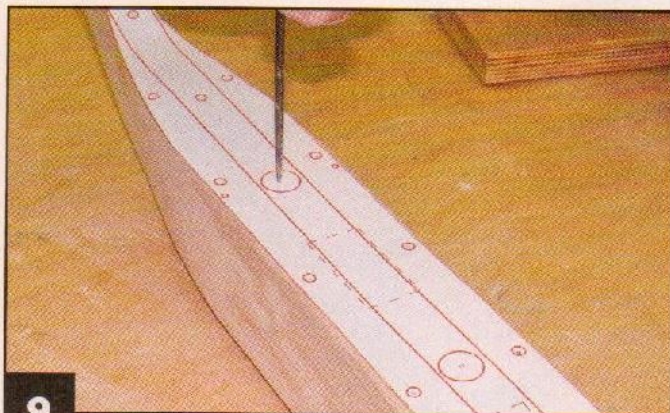
6 **Shape the front of the hull.** Draw a centerline on the bottom of the hull. Clamp the hull securely. Then sand and round the front of the hull. I use a carving disc in an angle grinder, but you can use a belt sander or a pneumatic drum sander.



7 **Round the front point.** I use a belt sander, but you can use a vibrating hand sander or hand sand the wood. Be careful because this area is fragile.



8 **Round the bottom of the hull.** I use a pneumatic drum sander to round the bottom edge of the hull. Use the same tool to slightly round the top edges.

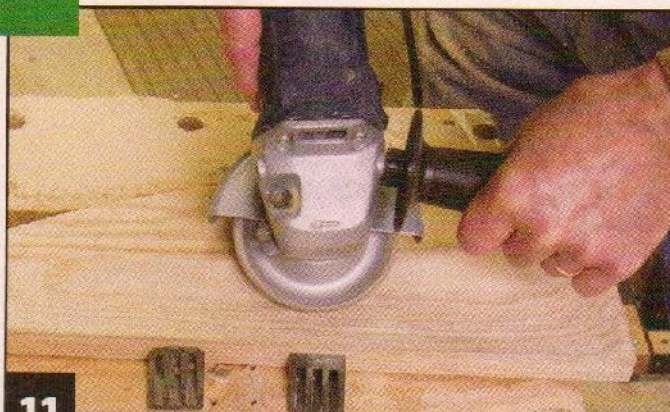


9 **Drill the holes.** Tape copies of the patterns in place and mark the location of the holes to be drilled in the top and sides of the hull with an awl or nail. Drill the holes to the proper depths as indicated on the pattern.

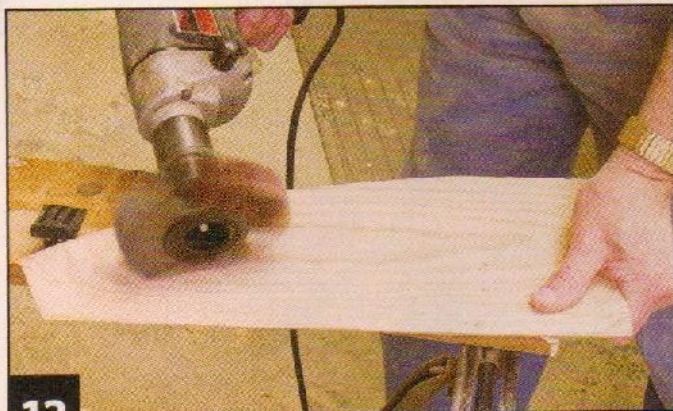
3-D SAILBOAT: SHAPING THE SAILS



10 **Cut the sails.** Cover the stock with clear packaging tape. Apply spray adhesive to the back of the pattern pieces, wait until the glue becomes tacky, and attach the patterns to the packaging tape. Use a scroll saw to cut the four sails. Remove the patterns. Mark the side to be contoured with a pencil.

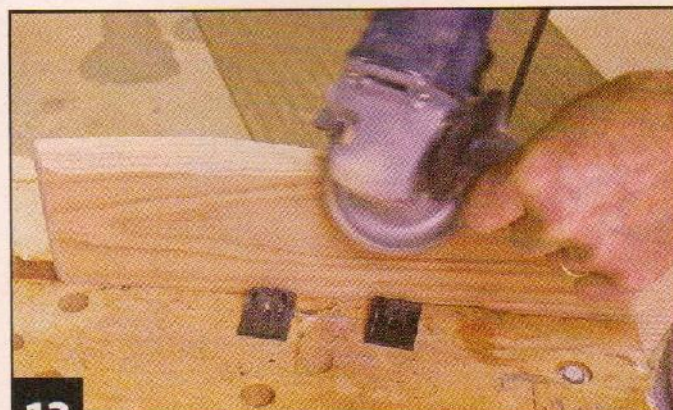


11 **Shape the concave side of the sails.** Clamp the board down and remove $\frac{3}{16}$ " from the center of the two main sails to give them a deep curve. Keep the sails fairly flat at the top and bottom, creating the depth in the center. I use an angle grinder, but you can use a belt sander with a coarse belt. Taper the wood from the center up to sides. Repeat on the smaller jib sails, but do not make the center as deep.



12

Smooth the concave side of the sails. Use a flap sander in a drill or a fine-grit sanding belt in the belt sander. You want the sails to be smooth and free flowing. If any areas appear wavy, re-shape them using the angle grinder or coarse sandpaper and then smooth them again.



13

Shape the convex side of the sails. Clamp the boards down and round the edges. Shape the back of the sails to follow the contour created on the concave side. Check the thickness often with your thumb and finger. Slight variances in the thickness will not be noticeable. Repeat step 12 on the convex sides.



15

Add the rigging to the sails. The two main sails have $\frac{1}{4}$ "-diameter dowels attached to the top and bottom of the sail to represent the gaff rigging and the boom. The dowels extend $\frac{1}{2}$ " beyond both edges of the sails. The jib sails have a $\frac{1}{8}$ "-diameter dowel attached to the front of the sail to represent the head stay. The $\frac{1}{8}$ "-diameter dowel should extend $\frac{1}{2}$ " below the bottom of the sail. Use Aleene's Tacky Glue and clamp the dowels in place to dry.

TIP SHOP-MADE DEPTH GAUGE

Make a depth gauge by attaching a $\frac{1}{4}$ " by $\frac{1}{4}$ " by $\frac{3}{16}$ " piece of wood to a $\frac{1}{4}$ " by $\frac{1}{4}$ " by 12" piece of wood. Let the small piece extend down from the cross piece. Each time the gauge is placed across the sail, you can see how much more material must be removed.



3-D SAILBOAT: MAKING MASTS AND RIGGING



14

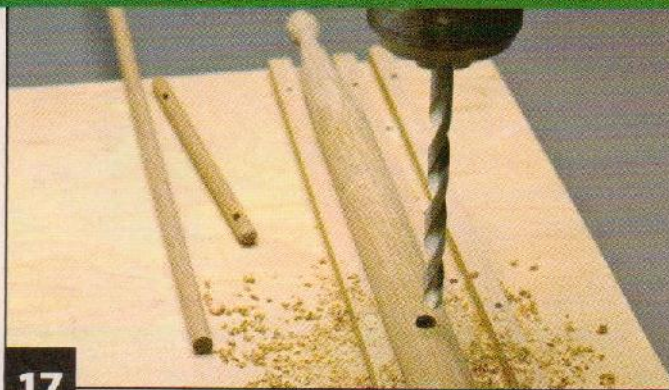
Create the masts. Round all four corners of a piece of $\frac{3}{4}$ "-thick by $\frac{3}{4}$ "-wide red oak with a router and round-over bit. Cut the front mast to $23\frac{1}{4}$ " long and the back mast to $19\frac{3}{4}$ " long. Sand and shape the tops. Sand the deck ends a bit so they will fit tightly into the holes in the deck.



16

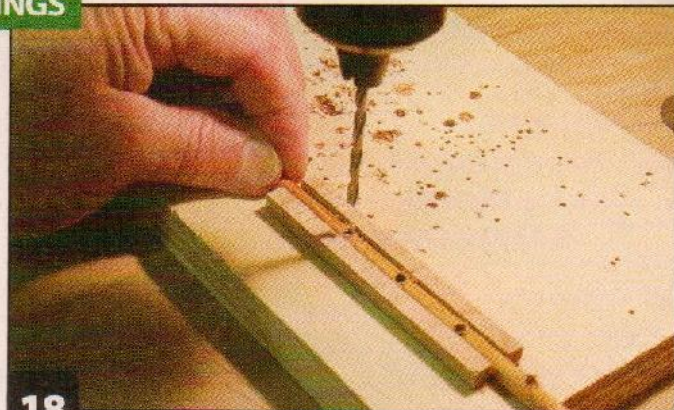
Drill the holes in the masts. Position the main sails on their respective masts about 4" down from the top of the mast. Mark the location of the dowels on the mast. Drill $\frac{1}{4}$ "-diameter holes $\frac{3}{8}$ " deep in the masts and dry fit the sails in the masts. Sand the dowels on the sails so the sails fit snugly against the mast. Sand the dowel and top of the jib sails at an angle so the sails will sit against the masts.

3-D SAILBOAT: MAKING THE SHROUDS AND RAILINGS



17

Drill the holes for the shrouds. The shrouds are the guide wires that stabilize the masts. Cut two $4\frac{1}{2}$ " lengths of $\frac{1}{4}$ "-diameter dowel for the spacers. Drill $\frac{1}{8}$ " holes through both ends of the spacers for the shrouds. The holes should be about $\frac{1}{4}$ " in from the end of the spacers. Drill $\frac{1}{4}$ "-diameter holes through both masts for the spacers. These holes should be about $8\frac{1}{2}$ " down from the top of the masts and at right angles to the holes drilled for the sails.



18

Make the railing posts. Make marks at $\frac{3}{4}$ " and 1" intervals on the $\frac{3}{16}$ " post stock. Drill eight $\frac{1}{8}$ "-diameter holes through the dowel at the $\frac{3}{4}$ " marks. To prevent the dowel from splitting, hold it between two pieces of scrap wood. For the back posts, drill the first hole halfway through, turn the dowel 90°, and drill a second hole halfway through. For the front post, drill one hole halfway through. Cut at the 1" marks and round the ends near the holes.



19

Shape the front of the railing. Cut two $\frac{1}{8}$ "-diameter dowels to 15" long. Sand a long taper onto one end of each dowel. The goal is to be able to push the tapered end of both dowels into the single hole in the front railing post.



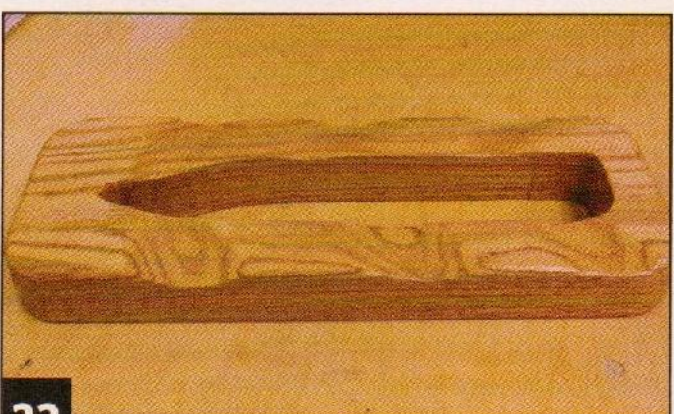
20

Assemble the railing. Glue the tapered ends of the railing dowel into the front post. Thread four posts onto each railing dowel. Glue the front and side railing posts in place. Cut the back rail stock so it will fit between the two back posts and glue it in place. Sand the side railings to fit if necessary, slide the back rail posts into position on the railing dowels and glue the back posts in place.



21

Cut the cabins and assemble the main sails. Use a scroll saw to cut the cabins and roofs. Round the edges of the roofs and attach them to the cabins. Glue the cabins in place. Glue the sails to the masts. Use tacky glue so you don't have to clamp them. Hold the pieces together with masking tape until the glue dries.



22

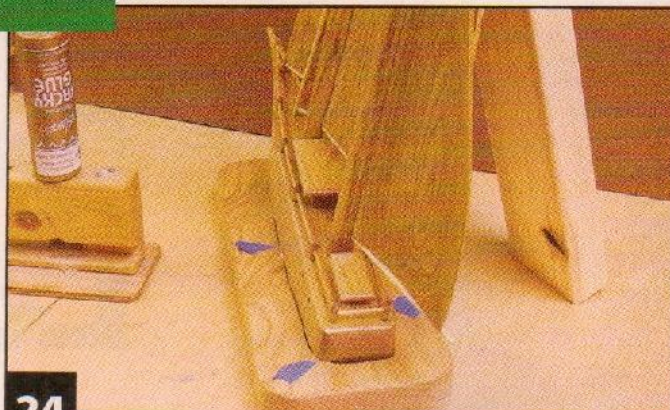
Make the base. Glue the base stock together. Trace the hull onto the base, drill a blade-entry hole, and cut a hole to mount the ship so it looks like the ship is partially submerged in the water. Add waves to the base with an angle grinder or belt sander. Add a lazy S-curve to the ends or simply round the square corners.

3-D SAILBOAT: FINAL ASSEMBLY AND FINISHING



23

Apply the finish. Finish the components before final assembly. I prefer polyurethane finish, but you can apply a clear finish or lacquer. When dry, place the hull in position, lift the front slightly, and lean the hull toward the rear to give it the appearance of motion. Mark the contact points on the base.

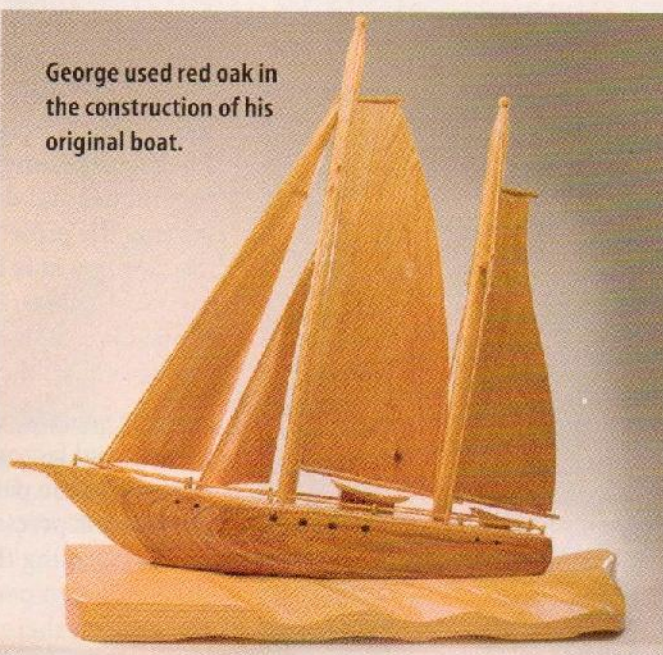


24

Assemble the boat. Remove the hull and apply glue to the marked areas. Set the hull back in place. When dry, attach the masts and sails. Thread the spacers through the masts and thread the shrouds through the spacers. Glue the bottom of the shrouds into the deck. Taper the top of the shrouds and glue them to the top of the masts. Attach felt pads to the bottom of the base.



George used red oak in the construction of his original boat.



Materials:

Use red oak or wood of choice. Use matching dowels or stain as desired.

- 3 each 1 $\frac{1}{4}$ " x 4" x 22" red oak (hull)
- $\frac{3}{4}$ " x 5 $\frac{1}{4}$ " x 14" red oak (sail 4)
- $\frac{3}{4}$ " x 7" x 17 $\frac{3}{4}$ " red oak (sail 3)
- $\frac{3}{4}$ " x 3 $\frac{3}{4}$ " x 12" red oak (sail 2)
- $\frac{3}{4}$ " x 5 $\frac{3}{4}$ " x 20" red oak (sail 1)
- $\frac{1}{8}$ " x 1 $\frac{1}{8}$ " x 2" red oak (cabin roof)
- $\frac{1}{8}$ " x 1 $\frac{3}{8}$ " x 3" red oak (cabin roof)
- $\frac{3}{4}$ " x $\frac{3}{4}$ " x 1 $\frac{3}{8}$ " red oak (cabin)
- 1" x 1 $\frac{1}{8}$ " x 2 $\frac{1}{4}$ " red oak (cabin)
- $\frac{3}{4}$ " x $\frac{3}{4}$ " x 23 $\frac{1}{4}$ " red oak (front mast)

- $\frac{3}{4}$ " x $\frac{3}{4}$ " x 19 $\frac{3}{4}$ " red oak (back mast)
- $\frac{1}{4}$ "-diameter x 31" dowel (sail rigging, spacers)
- $\frac{1}{8}$ "-diameter x 150" dowel (head stays, railing, shrouds)
- $\frac{3}{16}$ "-diameter x 12" dowel (railing posts)
- Aleene's Tacky Glue or glue of choice
- Polyurethane or clear finish of choice
- Spray adhesive
- Blue painter's tape
- Assorted grits of sandpaper

Materials & Tools

Tools:

- #8 skip-tooth blades or blades of choice
- Band saw (optional)
- Carving disc in an angle grinder (optional)
- Sanders of choice. I use a belt sander, a vibrating palm sander, and a pneumatic drum sander
- Drill with assorted drill bits
- Hobby knife
- Clamps or bags of shot (see tip)

ONLINE BONUS

For additional detail photos visit our Website.

www.scrollsawer.com



George North lives in Chamblee, Ga. George has made several boats using intarsia techniques. He is a member of the Gwinnett Woodworkers Association.



Compound-cut Lamppost

Combine segments to create large 3-D projects

By Sue Mey



Add a set of Shaker pegs to turn the lamppost into a jewelry stand.

I have always enjoyed compound scrolling, but have been frustrated by the size limitations. Compound-cut projects are limited to the thickness of wood the scroll saw is able to cut—usually less than 2½". I began experimenting with different techniques and developed a method of cutting the project in individual segments. This lamppost is constructed from four identical quarters that combine to create a project larger than what is normally possible with compound cutting techniques.

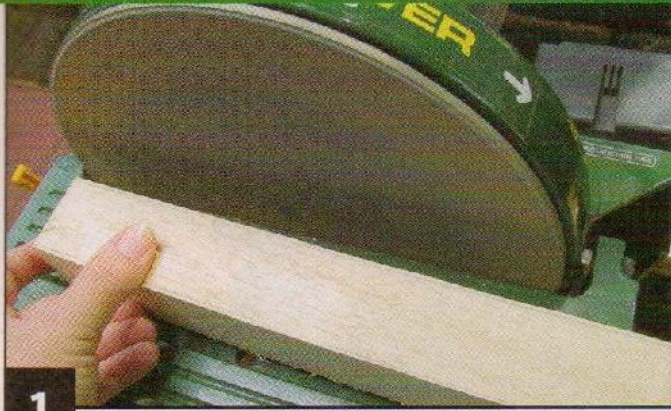
The success of the project depends on two crucial factors: careful and consistent cutting on the pattern lines and making sure the stock is precisely cut or sanded to size before scrolling the pieces. If the four pieces do not line up perfectly once you assemble the project, there are a few corrective measures you can take:

1. Use a straight chisel to shave away excess wood before sanding it smooth.
2. Use coarse-grit sandpaper to make adjustments.

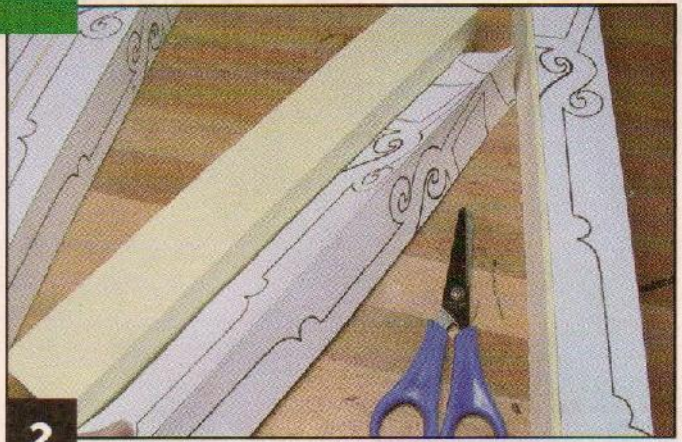
The project can be constructed for use as a jewelry stand or a night light. I use a torch fitting and globe with thin two-core cable powered by a 9-volt battery for my lamp, but it is also possible to use small LED lights and watch batteries or a plug-in type lamp.

The lighted version is a safe alternative to the traditional candles placed in windows. Adjust the size of the pattern to fit a model railroad or Christmas village display.

COMPOUND LAMPPOST: PREPARING THE STOCK

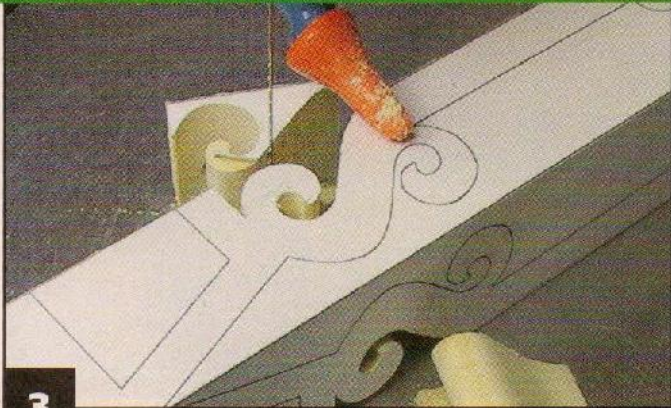


1 Prepare the stock. Cut the pieces slightly oversized on a scroll saw and use a disc or belt sander to sand the pieces to 1½" (38mm) by 1½" (38mm) by 11½" (292mm). A table saw can also be used to cut the pieces to the exact dimensions.

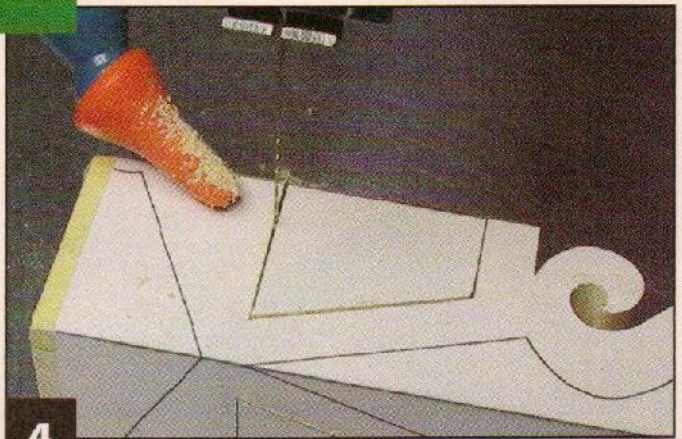


2 Transfer the patterns to the stock. You need four copies of the pattern for each project. Cover the surfaces of the wood with masking tape. Fold the patterns on the dotted centerline and attach them to the wood.

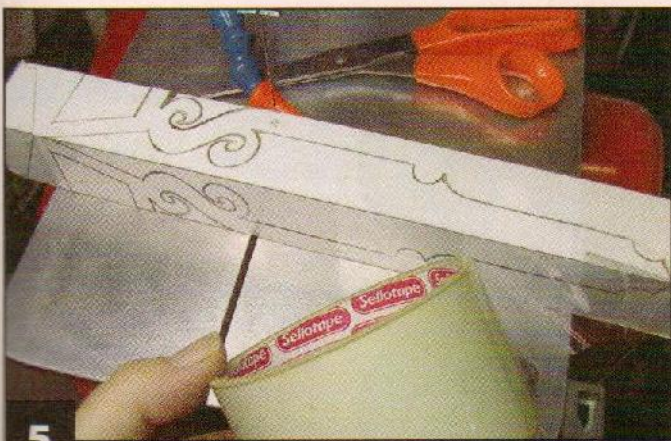
COMPOUND LAMPPOST: MAKING THE CUTS



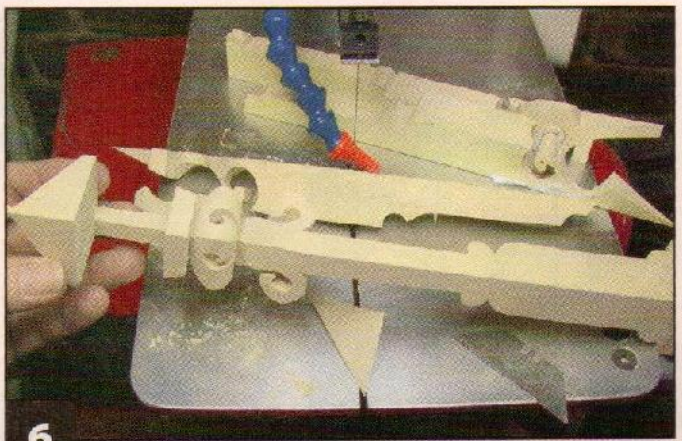
3 Cut the curves. Use a #9 skip-tooth blade to cut the curvy decoration on the inside edge of all four pieces (on the side with the opening for the lamp). Cut this area on both sides of the pieces and keep the waste.



4 Cut the opening for the lamp. Cut the lamp opening on one side of the pattern. Use a vacuum to remove the dust and then tape the waste back in place. Cut the lamp opening on the other side and tape all of the waste pieces back in place.

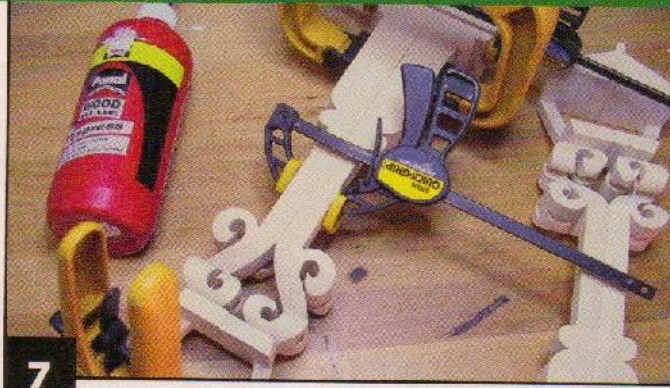


5 Make the remaining cuts. Cut in from the outside edge to achieve sharp corners. Make the long cut on one side and then cut the top of the lamp. Secure the waste back in place with clear packaging tape. Cut the other side.

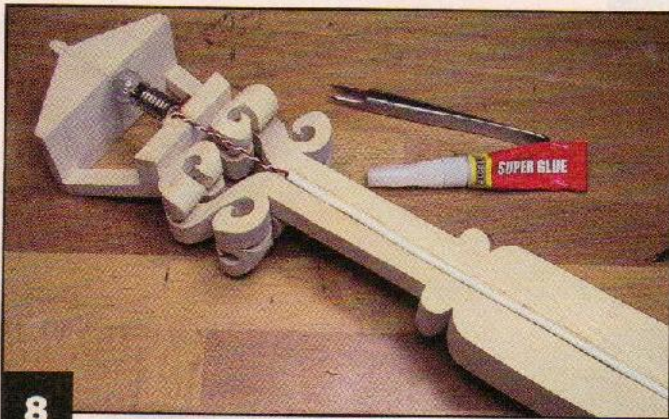
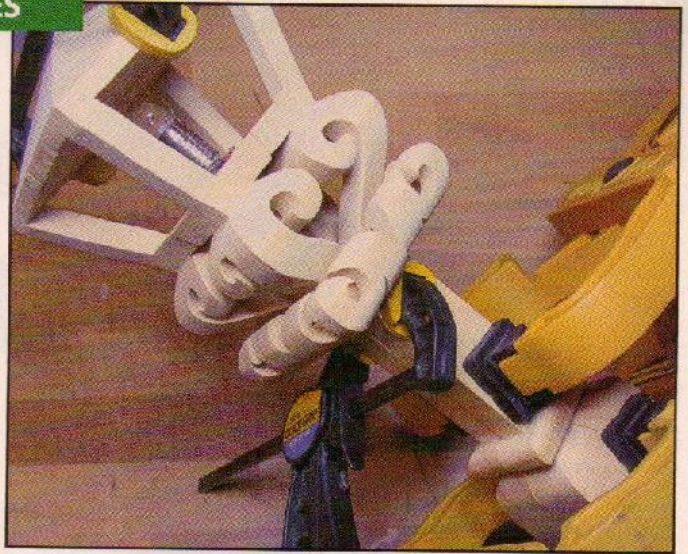


6 Separate and sand the components. Carefully remove the waste pieces, pattern, and tape. Remove the burrs from the cuts and hand sand the pieces with 220-grit sandpaper. Remove the sanding dust with a stiff-bristled paintbrush.

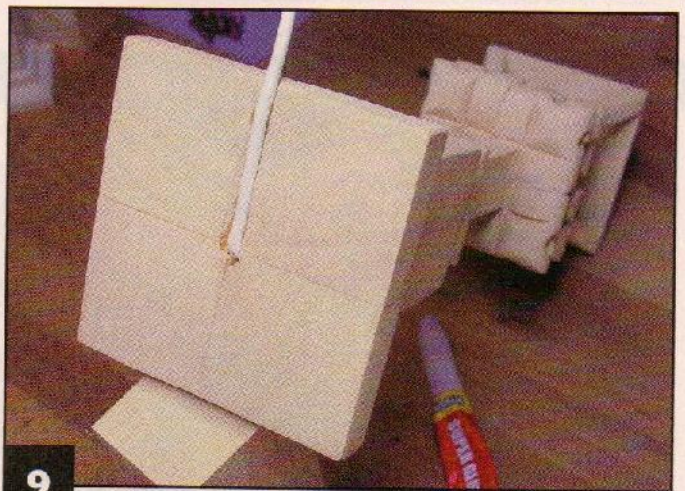
COMPOUND LAMPPOST: ASSEMBLING THE PIECES



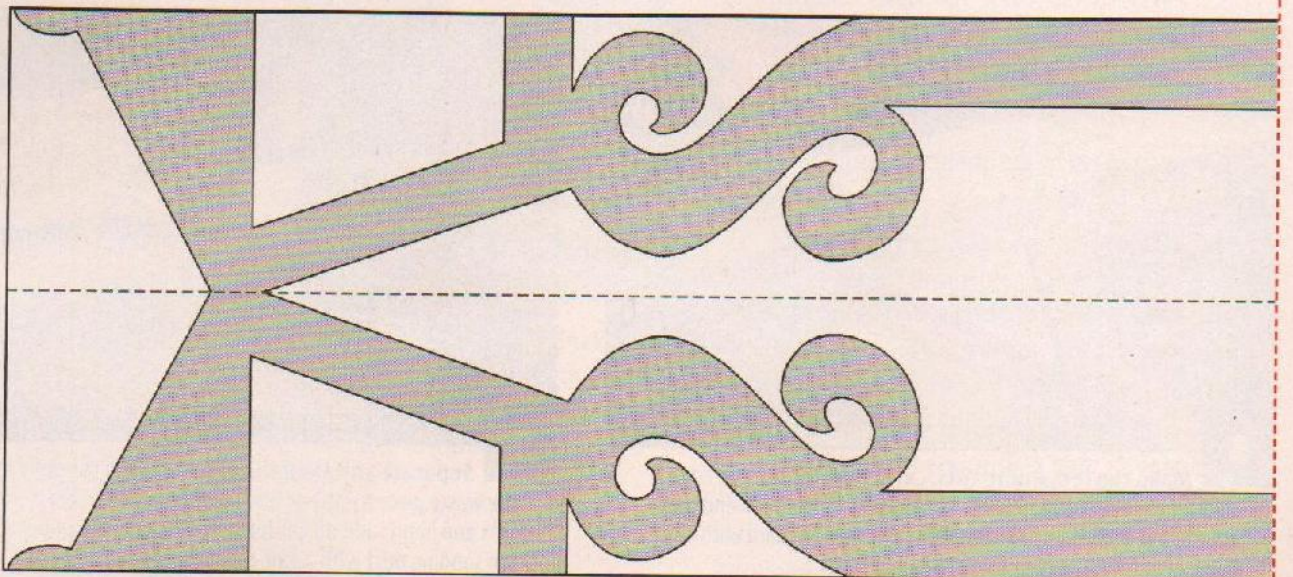
7 **Create the two halves.** Dry fit the pieces to make sure you have a good fit and make any adjustments necessary. Join the four quarters of the lamppost into two pairs with wood glue and clamps. Remove any glue squeeze out with a damp rag.

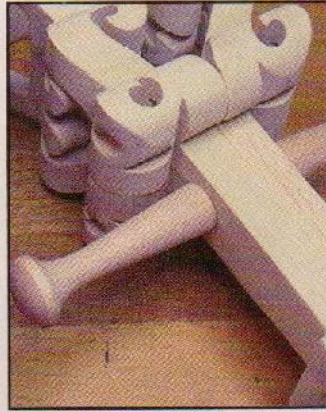
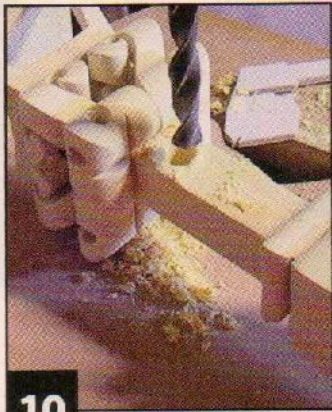


8 **Add the light (version A).** Carve a channel to accommodate the electrical wire with a small V-tool or rotary power carver. Glue the wire and light bulb holder to one half of the assembly with cyanoacrylate (CA) glue. If using an LED light, carve a recess to accommodate the battery, resistor, and LED.



9 **Glue the two halves together.** Apply wood glue to the other half of the lamppost and clamp it in position overnight. Carve a channel for the cord under the lamp base with a V-tool or rotary power carver. Secure the cord to the base with CA glue. Attach the cord to the battery pack if required.





10

Assemble the jewelry stand (version B). The jewelry stand is assembled the same way as the lighted lamppost, except no lighting hardware is installed. After the glue dries, drill a $\frac{3}{8}$ " (10mm)-diameter hole through the center of the stand just below the curvy part. Glue Shaker pegs in both sides of the hole.



11

Seal the wood. Smooth the glue joints with sandpaper. Apply deep-penetrating furniture wax or Danish oil with a medium-sized artist's brush. When dry, wipe the lamp down with a dry lint-free cloth to remove any residue. Apply several coats of clear spray varnish. Allow the varnish to dry thoroughly between coats and sand it lightly between coats with fine-grit sandpaper.

Materials & Tools

Materials:

- 4 each $1\frac{1}{2}$ " (38mm) x $1\frac{1}{2}$ " (38mm) x $11\frac{1}{2}$ " (292mm) wood of choice
- 2 each $\frac{3}{8}$ " (10mm)-diameter by $2\frac{1}{16}$ " (62mm)-long Shaker pegs (jewelry stand)
- Light bulb holder and light bulb (lighted lamppost)
- 16" (406mm) two-core insulated cable with battery pack and switch (lighted lamppost)
- 9-volt battery (lighted lamppost)
- LED light, resistor, and battery (lighted lamppost option)
- Masking tape
- Temporary-bond spray adhesive or glue stick
- Clear packaging tape
- Sandpaper, assorted grits
- Wood glue

- Cyanoacrylate (CA) glue
- Deep-penetrating liquid furniture wax or Danish oil
- Clear spray varnish

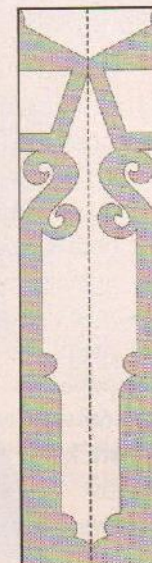
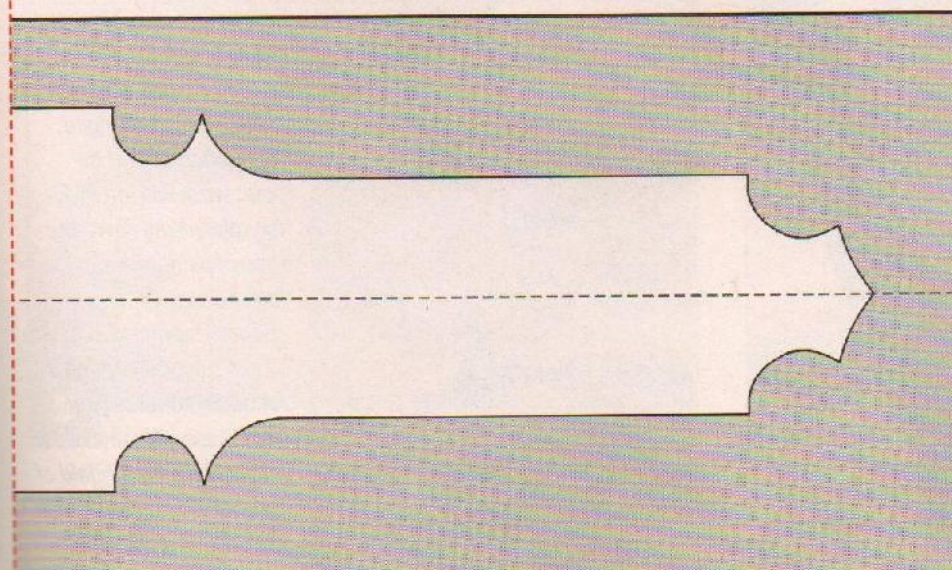
Tools:

- #9 skip-tooth blades or blades of choice
- Drill press with $\frac{3}{8}$ " (10mm)-diameter bit (jewelry stand)
- Table saw, disc sander, or belt sander
- Stiff-bristled paintbrush
- Lint-free cloth
- Damp rag
- Clamps
- Medium-sized artist's brush
- Small V-tool and straight chisel or rotary power carver (lighted lamppost)



Sue Mey lives in Pretoria, South Africa. Keep your eyes open for Sue's upcoming book on lighted scroll saw projects. To see more of her work or for patterns available to purchase visit www.scrollsawartist.com.

Lamppost pattern



Combine the pattern halves and make four copies to produce one lamppost.

Adding Color to Intarsia

Use paint and dye to achieve vibrant colors on this tropical macaw

By Kathy Wise

I prefer to use natural wood colors for my intarsia projects, but sometimes a piece requires an unavailable or impossible-to-find color. Because bright blue wood is not available, I use acrylic paint washes and food coloring to achieve the characteristic colors on this beautiful intarsia macaw.

I add the black markings to the face with a wood burner. Test the blue dye or acrylic paint washes on several types of wood to determine which look you prefer. Let the colored wood dry overnight and apply varnish or your top coat of choice to see exactly how the color will look. For an easier project, cut this pattern from one piece of wood and stain or dye all of the pieces.

Start by making six copies of the pattern. Keep a master copy for future use. Cut the pattern apart and separate the pieces into color groups. Tape contact paper flat on a board. Spray adhesive on the pattern pieces and position them on the shiny side of the contact paper. Cut the pieces adhered to the contact paper apart, peel the backing off the contact paper, and stick them on the wood. Follow the grain direction arrows.



Mixing colors

Test your paint or dye on several pieces of wood to determine which wood and concentration of paint or dye will look best. You want the grain to show through the color. I used sycamore for the blue parts of the macaw because it has a nice grain that shows through the paint wash.

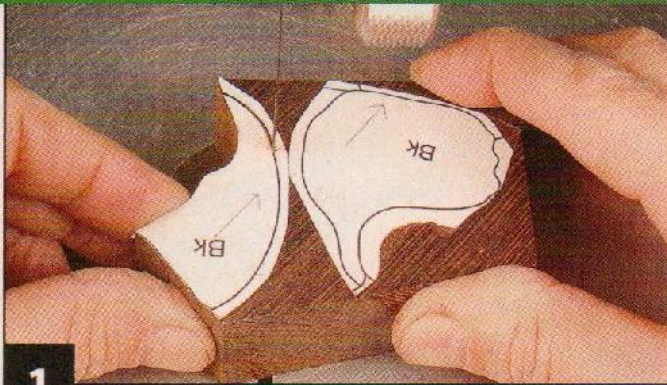
To make a wash, add a small amount of water to ultramarine blue acrylic paint.

Additional coats of the paint wash will intensify the color. Write down the ratio of paint to water for later reference.

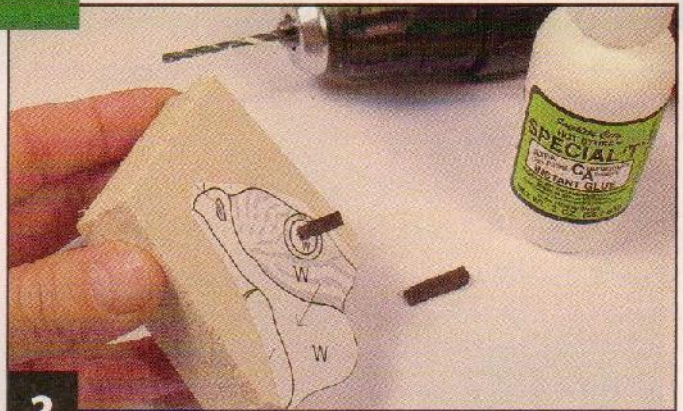
Food coloring mixed with water is another option for adding color to your work. I used this method to intensify the bright gold of the macaw. You could also use green dye or paint to enhance the leaves.



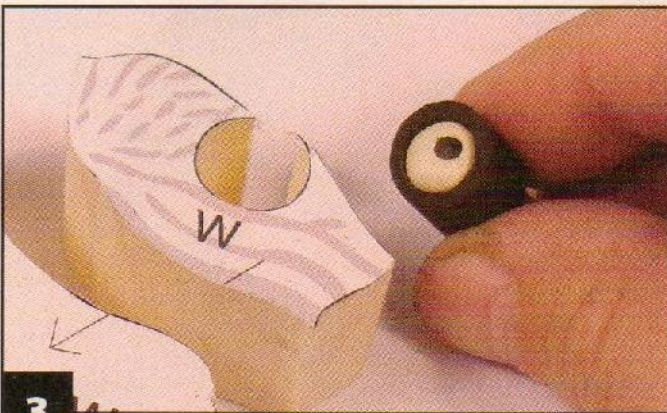
ADDING COLOR: CUTTING THE PIECES



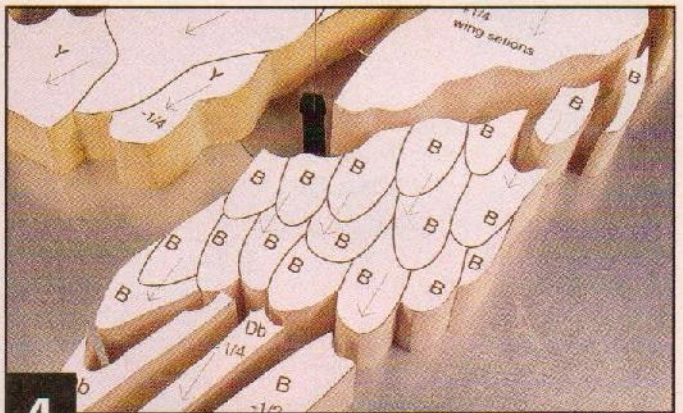
1 **Cut the main sections.** I use a #5 skip-tooth blade. Make sure your blade is square to the saw table by using a square to check a cut piece. Plane any wood that is not flat. Number the back of each cut piece with a pencil. Do not divide the individual pieces cut from the same color of wood.



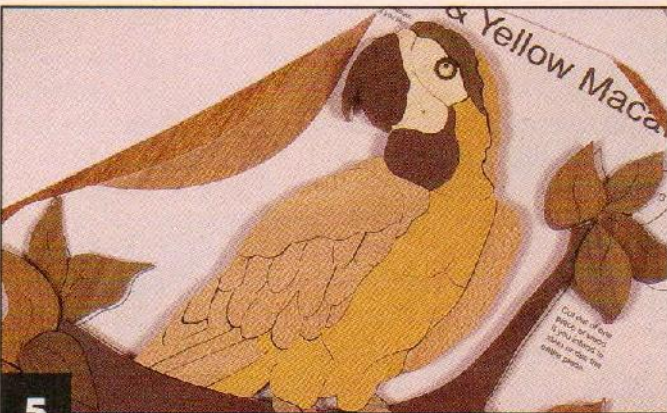
2 **Cut the eyeball.** Drill a $\frac{1}{8}$ "-diameter hole for the pupil. Sand a small piece of ebony into a $\frac{1}{8}$ "-diameter dowel by holding it against the drum sander with pliers. Glue the dowel into the hole. Cut the dowel flush with the surface and then cut the white of the eye. Round the eyeball on the drum sander.



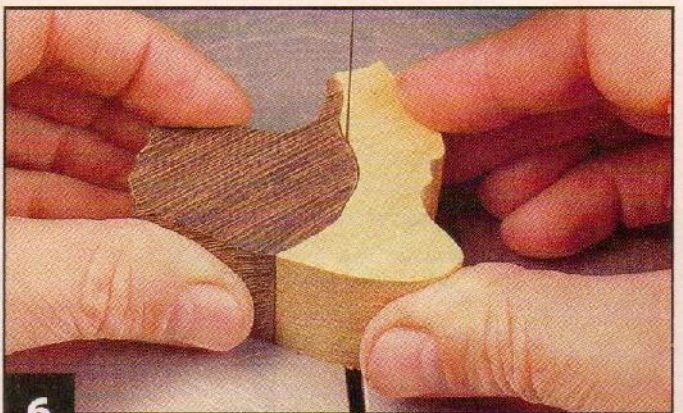
3 **Finish the eye.** Drill a blade-entry hole in the center of the black ring around the eye and cut the center hole. Then cut the perimeter and test the fit of the eyeball. Cut the adjoining face piece and test the fit of the black ring.



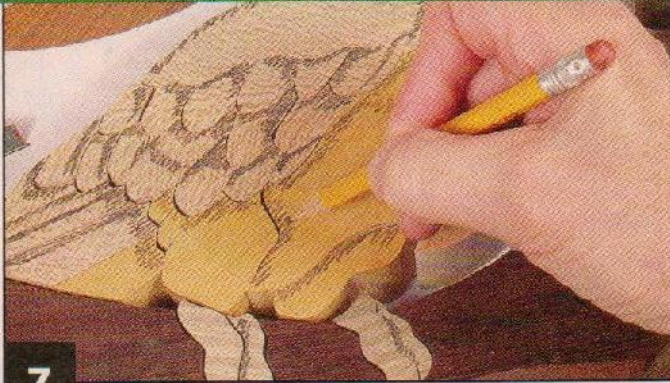
4 **Cut the feathers and individual pieces.** Use a #3 skip-tooth blade to cut the individual feathers. The smaller blade gives you a smaller kerf so the pieces will fit together better. Use the same blade to divide the yellow belly section.



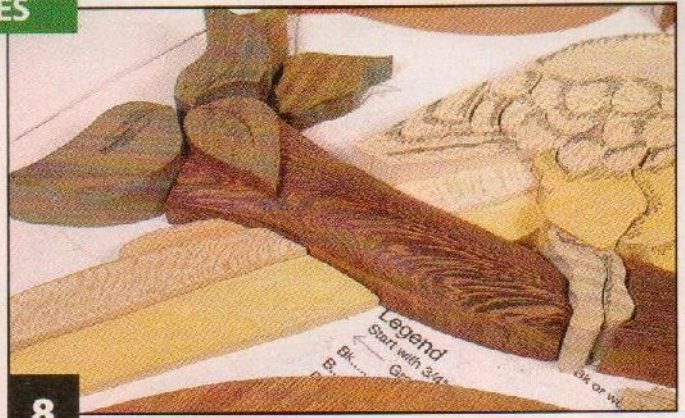
5 **Dry fit the pieces.** Position the cut pieces on a full-size pattern taped to a piece of plywood. Check the fit of the pieces and adjust as needed. If you do not like the wood color or grain of the pieces, change them now.



6 **Adjust the fit of the pieces.** Practice on scrap wood first. Hold two pieces together and recut along the line with a #3 blade. You may have to recut the line a few times, but each cut will draw the pieces closer together.



7 **Prepare to shape the pieces.** Shade the deepest areas using the shaping guide as a reference. I use an 8"-diameter drum equipped with 120-grit sandpaper for fast wood removal and a 2"-diameter drum equipped with 220-grit sandpaper for the final sanding. Work slowly and constantly replace your pieces next to adjoining pieces to check your progress.



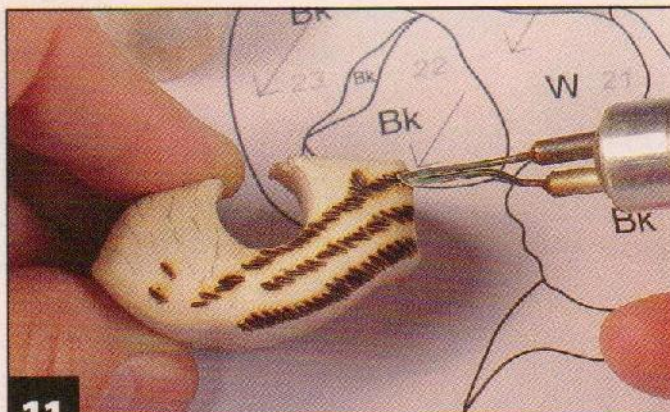
8 **Shape the lower section.** Shim up the leaf marked #53 on the pattern and shape all of the leaves. Then round the branch. The branch should be about 1/4" lower than the feet. Use an oscillating spindle sander or rotary power carver for the tight areas. Sand and shape the feet and tail, checking them against the branch. The branch is below the feet, but above the tail.



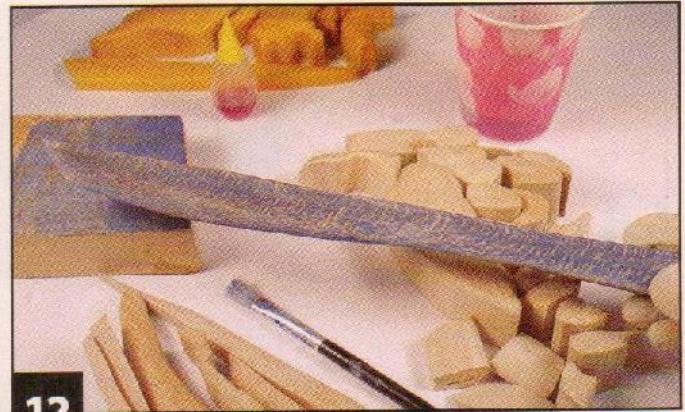
9 **Finish shaping the bird.** Use shaped pieces to mark the sanding depth on surrounding pieces. Remove a lot of wood between the upper and lower beak. Hold one or two feathers together and sand the top edge of the entire group of feathers. Put a sharp angle on each feather.



10 **Buff the pieces.** Assemble all of the shaped pieces on the full-size pattern and check for fit and flow. Make any necessary adjustments. Use a 220-grit sanding mop to buff each piece. The mop gives the pieces a nice sheen and makes it easier to apply a smooth coat of finish.



11 **Add the details to the face.** Apply white gel stain to the white areas of the face. Use a woodburner to add the black feathery lines around the eye using the grey lines on the pattern as a guide. Use a woodburner to add small texture lines to the feet and around the edges of the black eye ring.



12 **Add the color.** Use diluted yellow food coloring on the yellow pieces. Apply two coats of the blue paint wash to the light blue areas and three coats to the dark blue areas. Let the pieces dry overnight. If the grain raises, rub the pieces lightly with fine steel wool, sandpaper, or a paper bag.

ADDING COLOR: FINISHING THE PROJECT



13 **Cut the backing board.** Glue the macaw pieces into three sections using cyanoacrylate (CA) glue. Sand the bottom flat for a level gluing surface. Trace the outline of the macaw onto a piece of 1/4"-thick plywood or hardboard for a backing board. Cut 1/16" inside the lines. Sand the edges of the backing board with the sanding mop and paint the edges and back black.



14 **Glue the project to the backing board.** Place the three sections in position on the backing board. Lift one section and add dots of wood glue to the backing board. Then add a few drops of CA glue between the wood glue. Replace the section of the macaw and press firmly until the CA glue sets up. Use the same process to glue down the two other sections.



15 **Finish the macaw.** Trim any overhanging backing board and touch up the paint on the edges. Apply several coats of spray varnish or your finish of choice to the intarsia. Allow the finish to dry overnight. Cover the macaw's eye with clear glossy finish for a lifelike shine. Attach a mirror-style hanger to the back.

Materials:

These are the woods I use; you can use your woods of choice.

- 1" x 8" x 17" dark wood such as wenge (branch and beak)
- 1" x 9" x 4" yellow wood such as yellowheart or satinwood (breast and tail)
- 1/2" x 5" x 5" grey wood such as blue pine (feet)
- 1/4" x 2" x 2" black wood such as ebony (eye)
- 1" x 7" x 10" light wood such as sycamore (feathers, stained blue)
- 1" x 2 1/2" x 2 1/2" white wood such as poplar (face)
- 1" x 6" x 7" green wood such as lignum vitae (leaves)
- 1/2" x 12" x 4" light wood such as sycamore (feathers, stained blue)
- 1/4" x 15" x 22" plywood or hardboard (backing board)
- Roll of clear contact paper
- Spray adhesive
- Wood glue
- Cyanoacrylate (CA) glue and accelerator

Materials & Tools

- Spray varnish
- Mirror style hanger
- Blue & yellow paint or dye

Tools:

- #3 and #5 skip-tooth blades or blades of choice
- Drill press or drill with 1/16"-diameter drill bit
- Pneumatic drum sander with 120- and 220-grit sanding drums
- 220-grit sanding mop

Pattern for the **BLUE MACAW INTARSIA** is in the pattern pullout section.



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

Kathy Wise Designs Inc., P.O. Box 60 Yale, Mich. 48097, fax 810-387-9044, www.kathywise.com.

Cutting a Potpourri Pot

Create intricate designs in PVC with this simple technique

By Carol and Homer Bishop

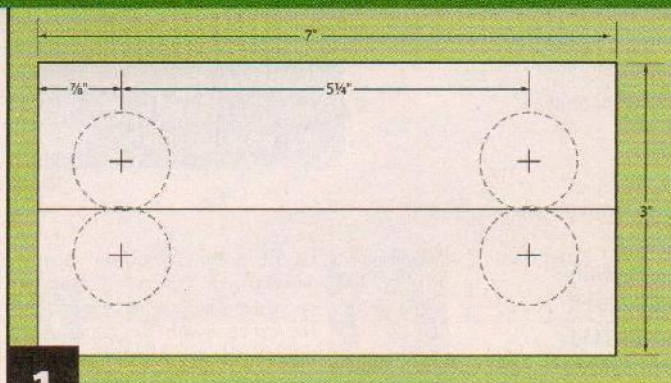
Cutting plastic or PVC with a scroll saw can be challenging. Using curved material makes the task even more difficult. I devised a simple jig to make the process easier. By using a wide diameter pipe that fits over the arm of your scroll saw, you can cut designs around the entire perimeter.

With a little creativity, you can use this technique to make a variety of items including jewelry boxes and bowls. This lighted potpourri pot is a stylish way to add fragrance to your home and it doubles as a night light.

The first step in this project involves building the jig to hold the round pipe perpendicular to the blade or drill press. It is important to note that different gauges of PVC have different thicknesses. You may have to make slight alterations to the patterns to fit the inside diameter of your chosen material.

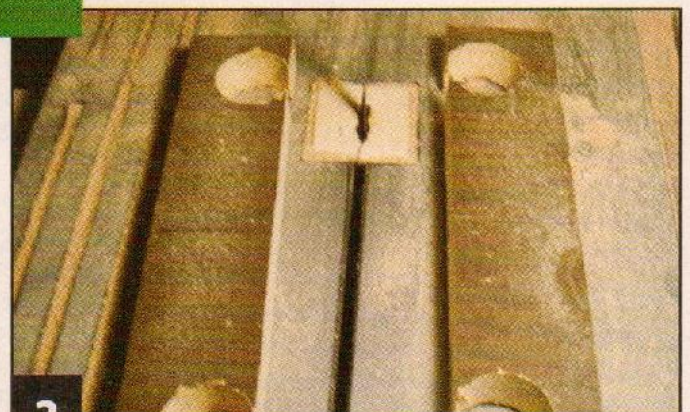


POTPOURRI POT: MAKING THE JIG



1

Prepare the side supports. Cut the scrap wood to size. Mark the location of the dowel holes using the drawing as a guide. Drill four 1"-diameter holes with a spade bit.

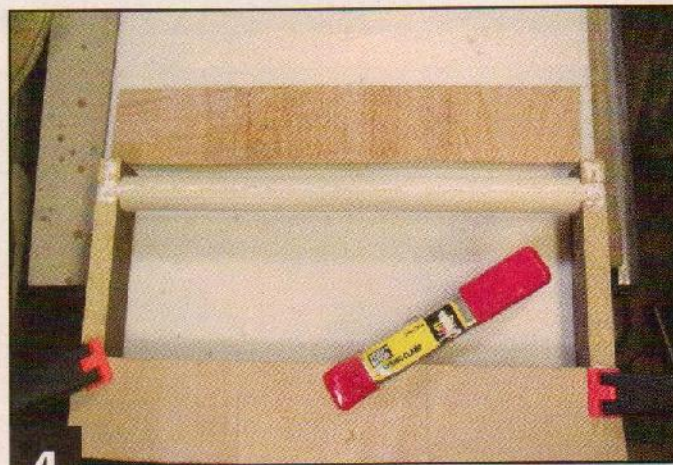


2

Cut the side supports. Separate the sides down the center and sand the bottom of the supports flat. Cut the 1"-diameter dowels into 14"-long sections.

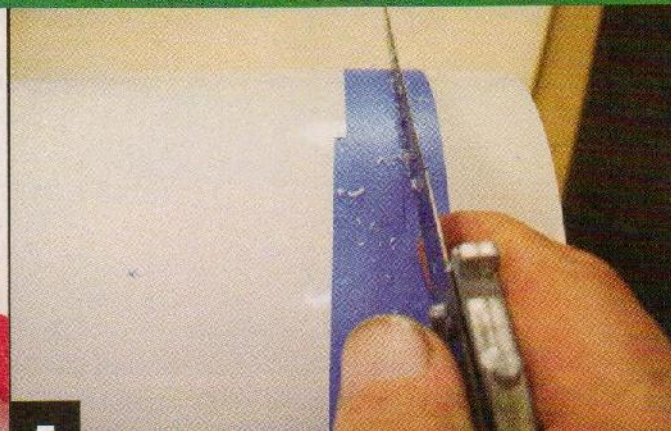


3 **Glue the dowels in place.** Apply glue to the ends of the dowels and insert them into the side supports. Measure the diagonals of the assembly to ensure it is square. Make any necessary adjustments and clamp the supports to the work surface until the glue dries.



4 **Glue the clamping boards in place.** The lauan plywood extends past the dowels, allowing you to clamp the jig to your saw table or drill press. Cut the lauan boards to size. Apply glue along the length of the dowels and the bottom of the supports. Clamp the lauan boards to the bottom until the glue dries.

POTPOURRI POT: PREPARING THE PVC



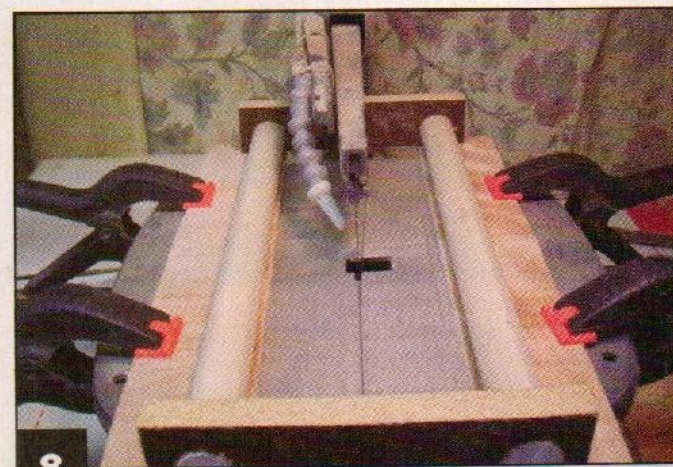
5 **Cut the PVC to size.** We use a 6"-diameter PVC coupling because it has a flange inside that will support the bottom of the potpourri area. Cut 1½" from one end, using a handsaw.



6 **Sand the cut edge.** We use a SeeSander, but you could use a belt sander or disc sander. Even up the cut edge leaving a smooth surface. The cut end of the coupling will become the top.

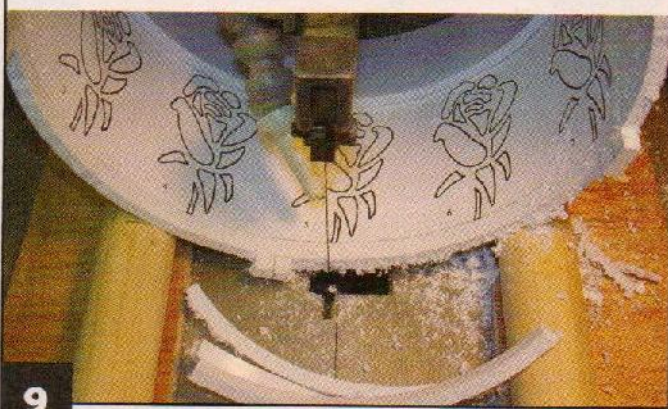


7 **Attach the rose pattern to the PVC.** Apply spray adhesive to the back of the pattern. Position the pattern inside the coupling with the feet aligned with the uncut edge.



8 **Attach the jig to the saw table.** Center the scroll saw blade in the jig, both left to right and front to back. Securely clamp the plywood base to the saw table.

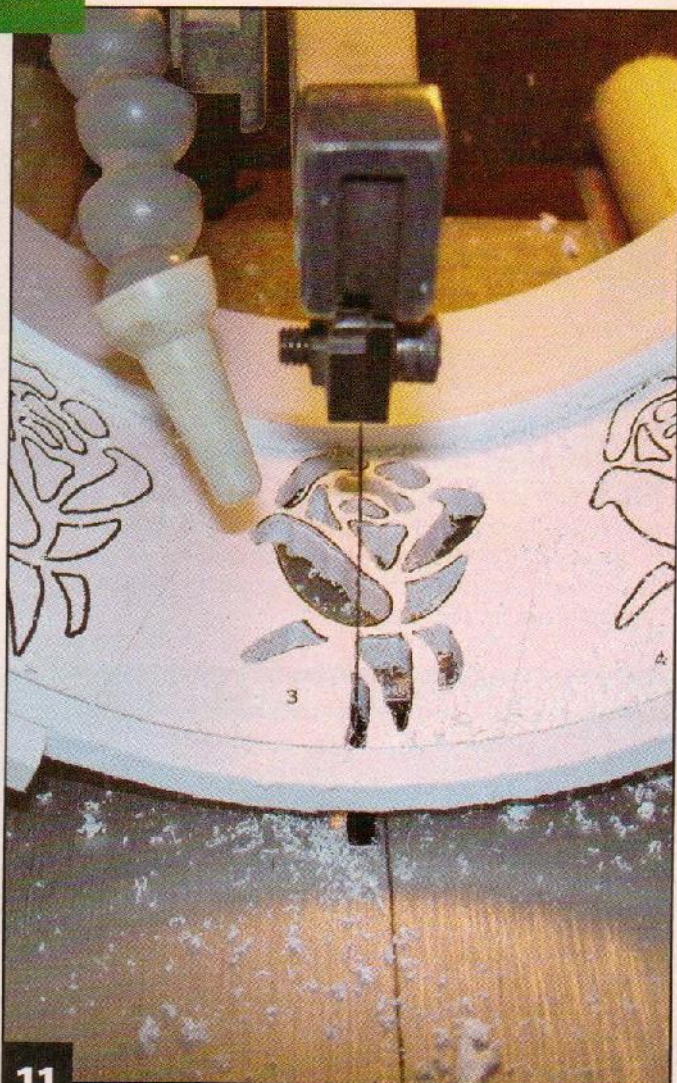
POTPOURRI POT: CUTTING THE BOTTOM



- 9** **Cut the feet.** Slide the coupling over the arm of the scroll saw. The coupling will rest in the jig and be supported above the saw table. Install a #1 spiral blade and cut the feet.



- 10** **Drill the blade-entry holes.** Remove the coupling from the saw. Drill blade-entry holes in the sections of the roses. We use a Dremel with a right-angle attachment and a scrap wood backer.

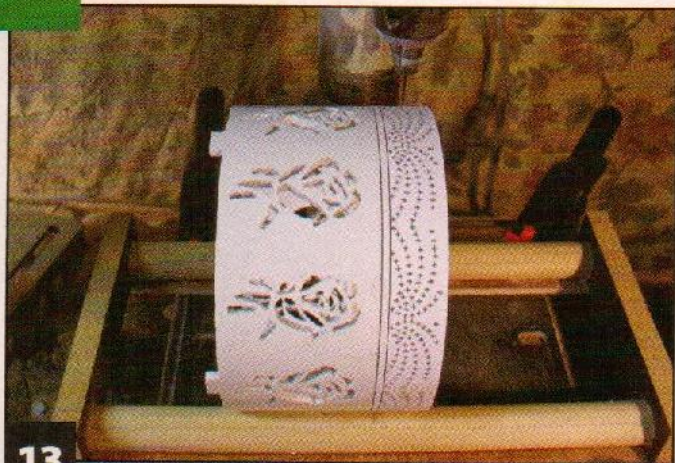


- 11** **Cut the roses.** Position the coupling on the jig and thread the #1 spiral blade through the blade-entry holes to cut the roses. Remove the resulting plastic fuzz with your finger as you cut.

POTPOURRI POT: DRILLING THE TOP



- 12** **Attach the jig to the drill press.** Mount the jig on the drill press so the drill bit is centered between the dowels. Securely clamp the jig to the table.



- 13** **Drill the accent holes.** Attach the burst pattern to the outside of the coupling. Use a $\frac{1}{16}$ "-diameter drill bit to drill all of the holes. The holes allow air to circulate through the potpourri.

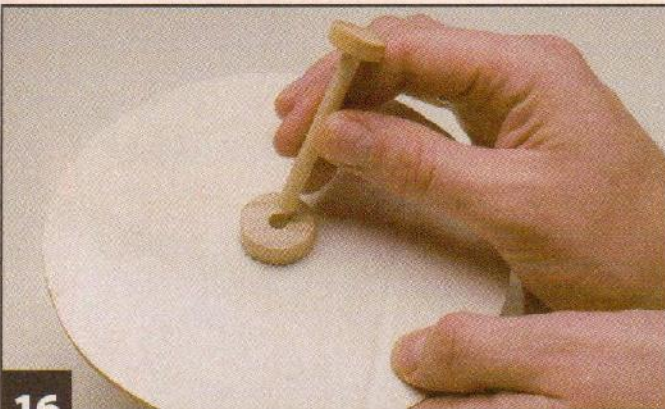
POTPOURRI POT: FINISHING THE PROJECT



14 **Clean up the sides.** Remove both patterns and clean up any adhesive residue with mineral spirits. Use a soft nylon brush to remove any remaining fuzzies. Stack two pieces of $\frac{1}{8}$ "-thick hardboard together and secure the stack with masking tape. Trace the inside of the coupling onto the stack



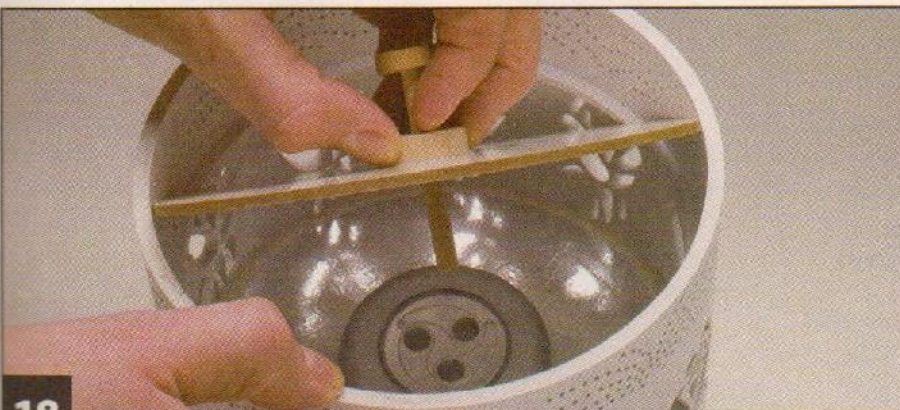
15 **Cut the section bottoms.** Cut around the traced line with a #4 skip-tooth blade. Sand the edge of one piece to fit on top of the flange and serve as the bottom of the potpourri area. Apply spray adhesive to one side of both hardboard pieces. Press aluminum foil onto the adhesive and trim off the excess.



16 **Create the light button.** Glue a $\frac{1}{4}$ "-thick by 1"-diameter dowel to the center of the potpourri bottom on the non-foil side. Drill a $\frac{1}{4}$ "-diameter hole through the center of the dowel and the bottom. Create a $\frac{1}{4}$ "-thick button from a $\frac{3}{4}$ "-diameter dowel and drill a $\frac{1}{4}$ "-diameter hole $\frac{1}{8}$ " deep in the center. Glue a $\frac{1}{4}$ "-diameter by $2\frac{3}{4}$ "-long dowel into the button. Insert the dowel through the potpourri bottom and make sure it slides through easily.



17 **Cut the lid.** Attach the rose pattern to the colored acrylic with spray adhesive. Drill blade-entry holes and cut the fretwork. Cut around the perimeter of the lid. Trace around the inside of the coupling onto another piece of hardboard. Draw a line $\frac{1}{4}$ " inside the traced line and cut along both lines. Glue the ring to the lid with cyanoacrylate (CA) glue. The ring will keep the lid from sliding off of the coupling.



18 **Assemble the pot.** Place the bottom in position with the aluminum foil facing up. Glue it in place with white acrylic caulk. Attach the self-adhesive LED light to the center of the bottom. You can diffuse the light by adding rice paper to the inside of the coupling behind the roses. Place the potpourri bottom in position. The dowel rests on the LED light and holds the button above the dowel ring so the light can be turned on and off.



Carol and Homer Bishop have been cutting and designing intarsia patterns for four years. Some of their patterns can be found through Scroller Ltd. and The Wooden Teddy Bear. Carol and Homer can be contacted at bishop@timespress.net.

**BEST
PROJECT**
DESIGN CONTEST
FINALIST
Scroll Saw Woodworking & Crafts

Japanese Garden Clock

**Kanji characters combine
with the simple lines of
Japanese architecture**

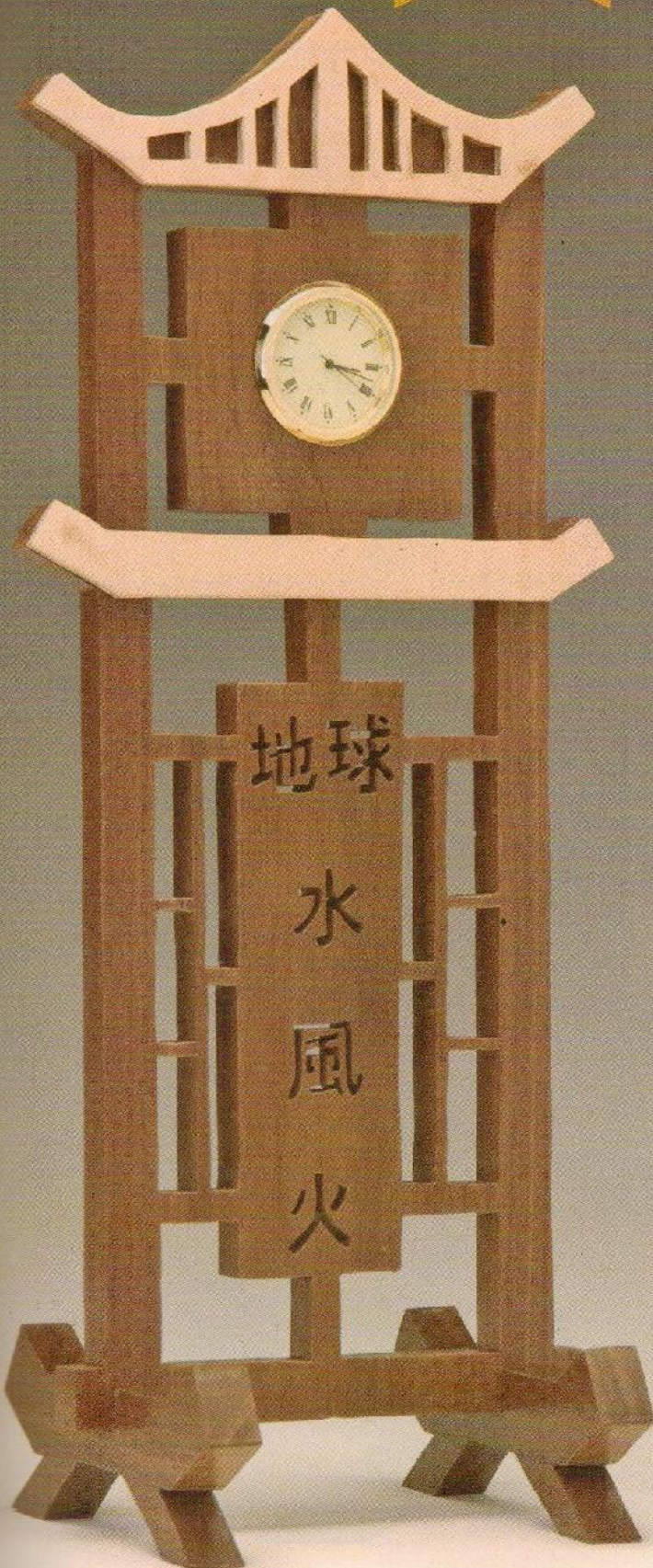
By Pete DeFrancisco

I fell in love with the simple clean lines of Japanese architecture and art while serving in the military, stationed near Fukuoka, Japan. I enjoyed touring the area and the simple structures marking the garden entrance ways gave me a sense of serenity. Those clean smooth lines combined with the beauty of nature inspired the creation of this clock. I tried to capture that feeling of serenity and simplicity with this design.

The Kanji characters represent the words Earth, water, wind, and fire. I used the Website <http://babelfish.yahoo.com> to translate the words and enlarged the characters on my computer to create the patterns. The straight lines typical of Japanese architecture can be difficult to cut on a scroll saw. Slow down and take your time. Use sandpaper to clean up wavy lines.

I use black walnut for the main part of the clock because of its tight grain and dark chocolate color. I use 1/8"-thick maple for the contrasting overlays, but maple veneer would work as well.

Sand the pieces to remove any burrs after cutting and glue the feet and overlays in place. Apply a coat of satin water-based polyurethane. Sand the piece lightly with 220-grit sandpaper and then apply a second coat of polyurethane. Pop in the clock insert and sign your work to finish the project.



Potpourri lid pattern



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Additional patterns for the **Potpourri Pot** are in the pullout section.

Materials:

POTPOURRI POT

- 6"-diameter PVC coupling
- 3 each 1/8" x 7" x 7" hardboard (bottoms and lid ring)
- 1/8" x 7 1/2" x 7 1/2" colored acrylic (lid)
- 1"-diameter by 1/4"-long dowel
- 3/4"-diameter by 1/4"-long dowel
- 1/4"-diameter by 2 3/4"-long dowel
- Cyanoacrylate (CA) glue
- Spray adhesive
- White acrylic caulk

- LED push light (we found one at the dollar store)
- 2 each 7 1/2" x 7 1/2" aluminum foil
- Mineral spirits
- Rice paper (optional)

JIG

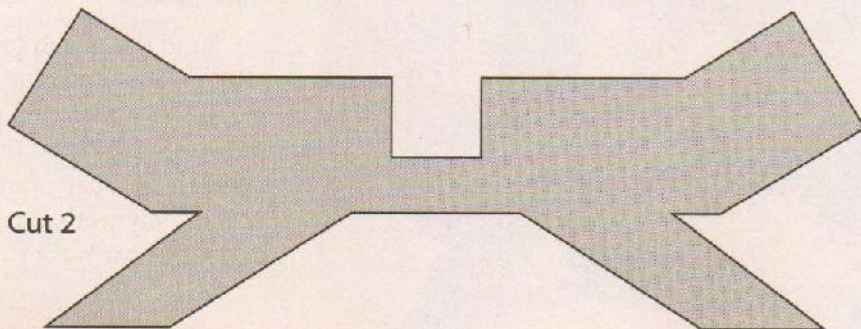
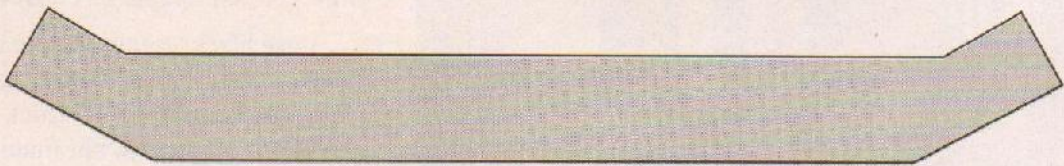
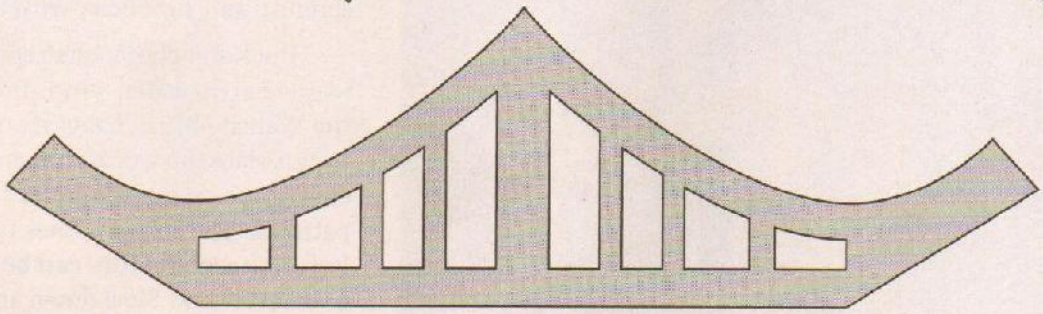
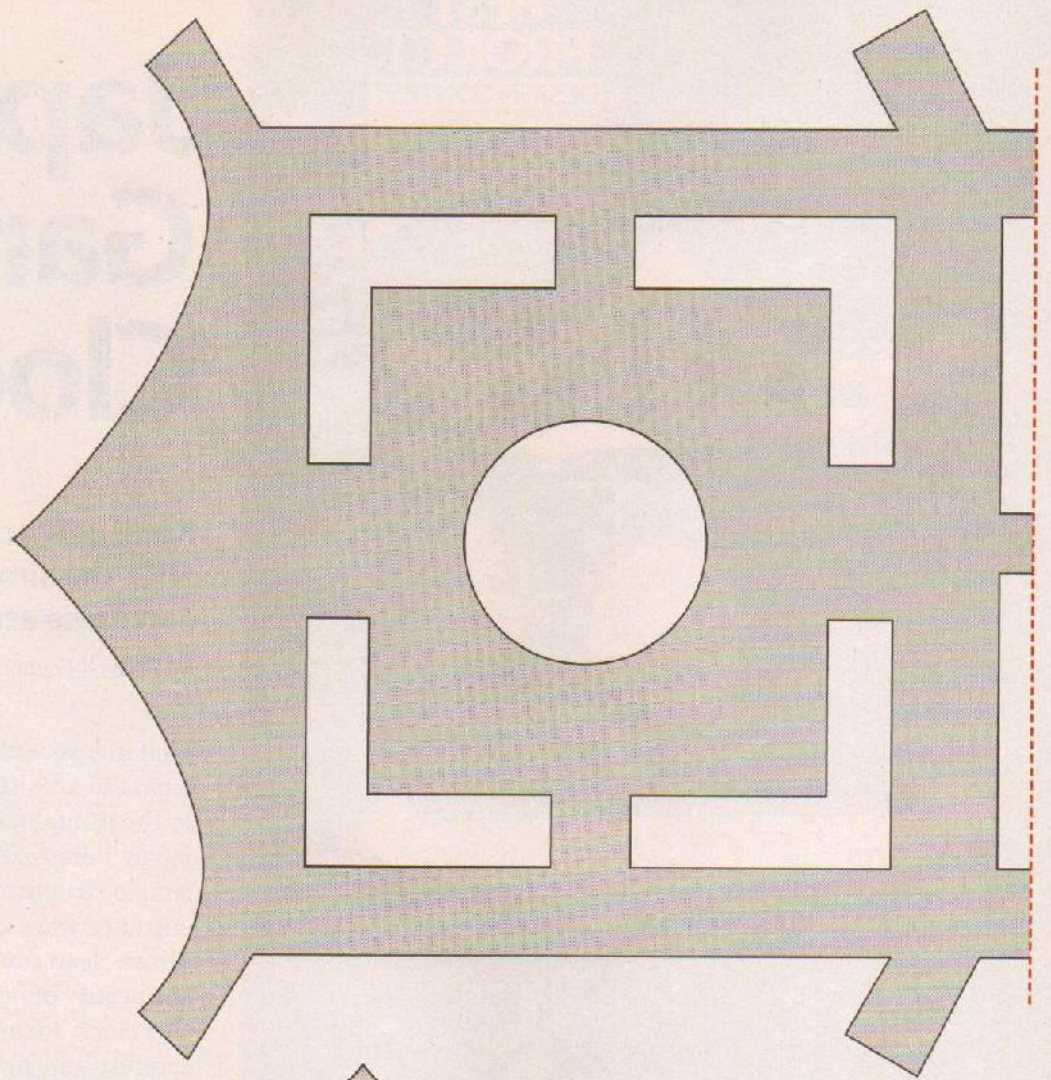
- 5/8" x 3" x 7" scrap wood of choice
- 2 each 1"-diameter by 14"-long dowel
- 2 each 1/4" x 2 1/4" x 14" luan
- Wood glue

Materials & Tools

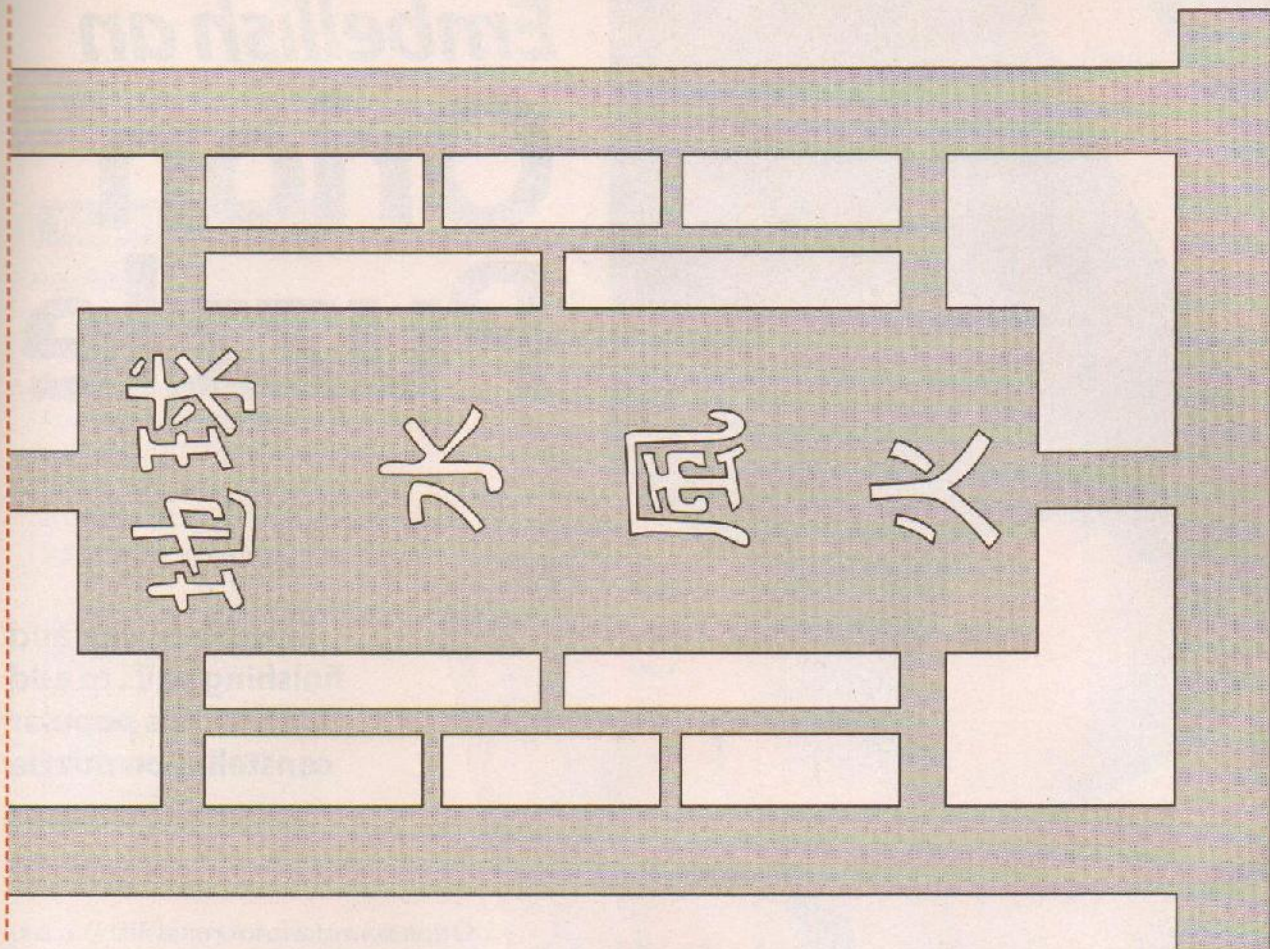
Tools:

- #1 spiral blades or blades of choice
- #4 skip-tooth blades or blades of choice
- Drill press
- Assorted drill bits
- Assorted clamps
- Nylon brush
- Seyco SeeSander
- Dremel with right-angle attachment

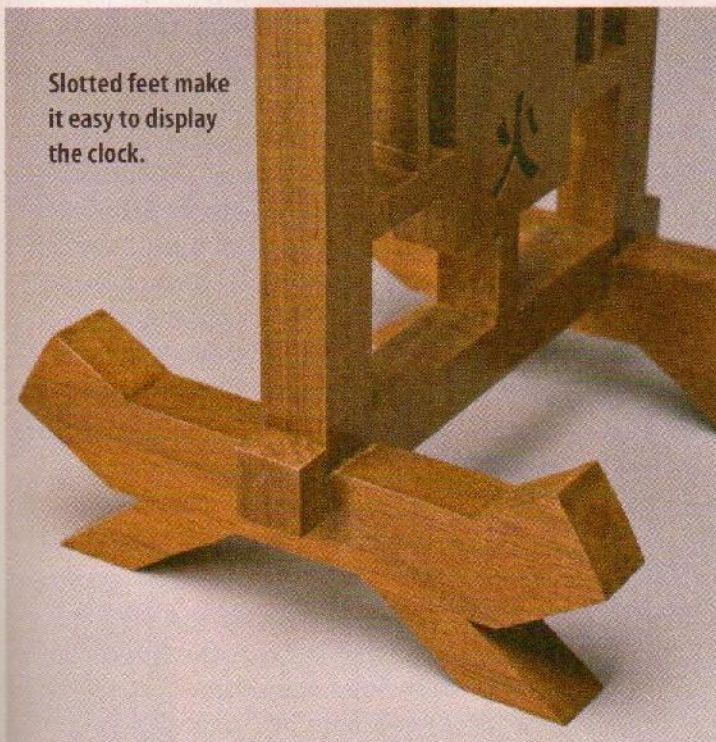
Japanese garden
clock patterns



Cut 2



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Slotted feet make it easy to display the clock.

Materials & Tools

Materials:

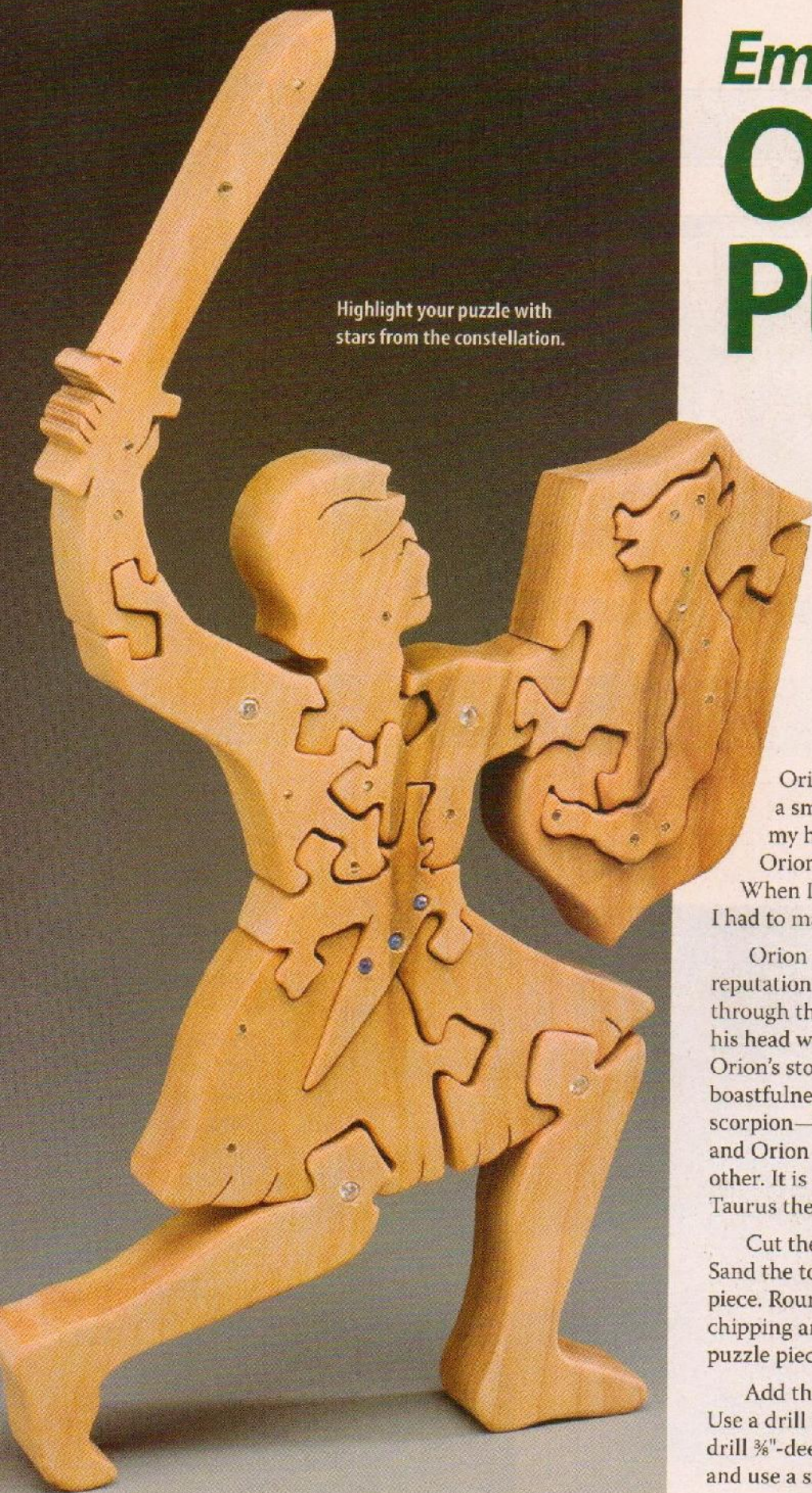
- 1/2" x 5 3/4" x 12 1/2" walnut (body)
- 2 each 1/2" x 2" x 4 3/4" walnut (feet)
- 1/8" x 1" x 5 3/4" maple (lower overlay)
- 1/8" x 1 3/4" x 5 3/4" maple (upper overlay)
- Satin water-based polyurethane
- Assorted grits of sandpaper
- 1 1/16"-diameter clock insert

Tools:

- #2 skip-tooth blades or blades of choice
- Drill with 1/16"-diameter drill bit



Pete DeFrancisco lives in Dallas, Tex. He works for one of the largest hospitals in Dallas. For more of his mini-clock designs, visit his Website at www.pajarostudiowns.com.



Highlight your puzzle with stars from the constellation.

Embellish an Orion Puzzle

Use silver wire and finishing nails to add stars to this popular constellation puzzle

By Judy and Dave Peterson

Orion is my favorite constellation. As a small child, I could lay in bed with my head on the windowsill. I watched Orion in spring as it rose over the hill. When I started designing puzzles, I knew I had to make one of Orion.

Orion was a great hunter who had the reputation of being so tall he could walk through the deepest water without getting his head wet. There are many versions of Orion's story, most having to do with his boastfulness. In one story, the gods send a scorpion—Scorpio—to kill Orion. Scorpio and Orion circle the skies, chasing each other. It is also said that Orion is fighting Taurus the bull, which is adjacent to him

Cut the puzzle from your wood of choice. Sand the top and bottom of each puzzle piece. Round over all of the edges to prevent chipping and provide visual separation of the puzzle pieces.

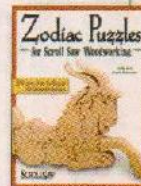
Add the minor stars using silver wire. Use a drill bit that matches the wire gauge to drill $\frac{3}{8}$ "-deep holes. Snip the wire to length and use a small hammer to tap the wire into

**Zodiac Puzzles
for Scroll Saw Woodworking**

By Judy and Dave Peterson

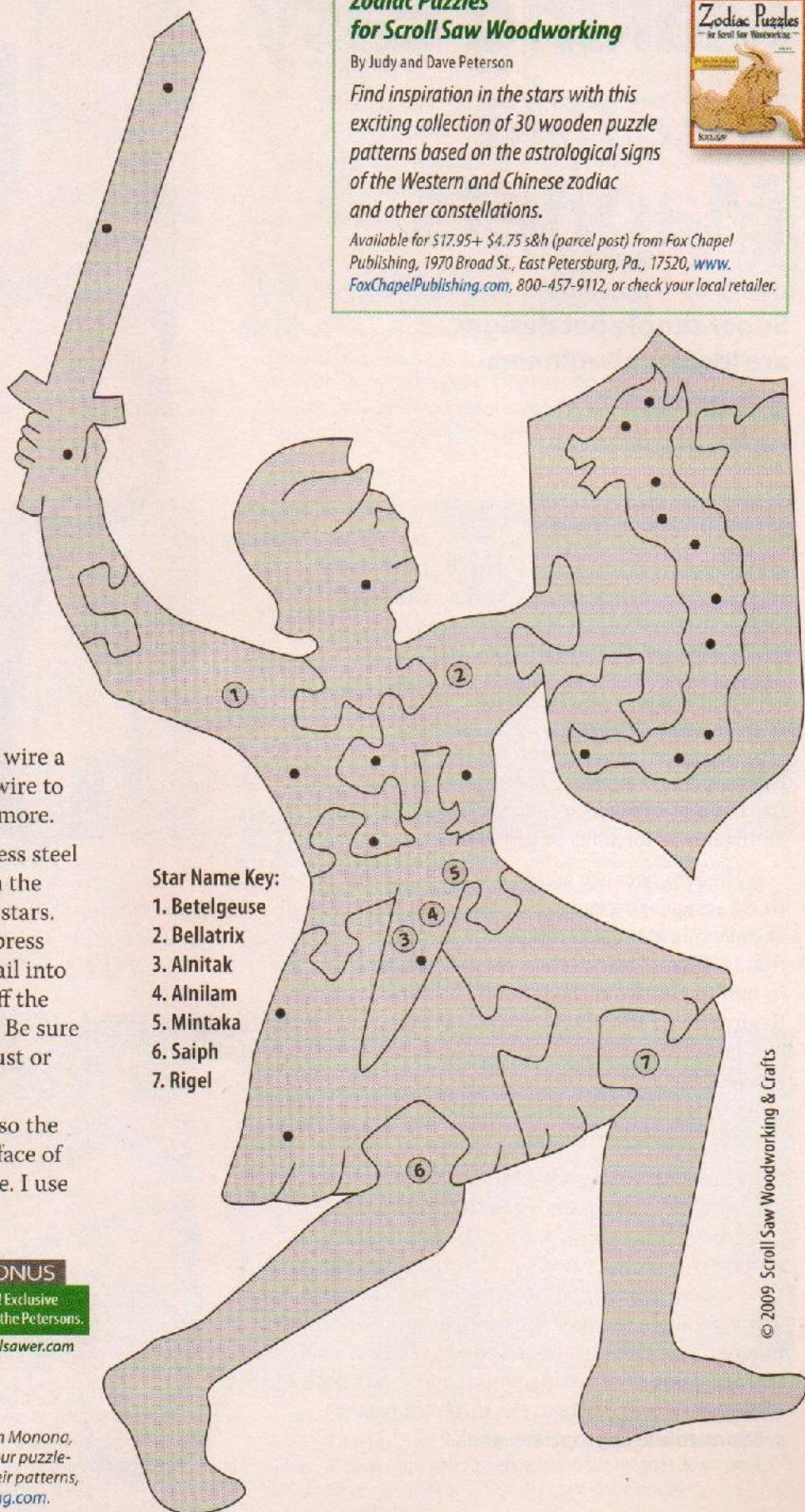
Find inspiration in the stars with this exciting collection of 30 wooden puzzle patterns based on the astrological signs of the Western and Chinese zodiac and other constellations.

Available for \$17.95+ \$4.75 s&h (parcel post) from Fox Chapel Publishing, 1970 Broad St., East Petersburg, Pa., 17520, www.FoxChapelPublishing.com, 800-457-9112, or check your local retailer.



Materials & Tools

- Materials:**
- 3/4" to 1" x 6" x 9 3/4" hardwood of choice
 - Danish oil
 - Assorted grits of sandpaper
 - Cyanoacrylate (CA) glue
 - Sterling silver wire (available at craft stores)
 - Stainless steel finishing nails
- Tools:**
- #9 skip-tooth blades or blades of choice
 - Wire cutters
 - Drill with bit sized to match the wire gauge



- Star Name Key:**
1. Betelgeuse
 2. Bellatrix
 3. Alnitak
 4. Alnilam
 5. Mintaka
 6. Saiph
 7. Rigel

place. If the hole is too large, cut the wire a little long and flatten the top of the wire to cover the gap by hammering it a bit more.

Add the major stars using stainless steel finishing nails. Drill shallow holes in the puzzle to show the placement of the stars. Mount a finishing nail in your drill press and use the drill press to push the nail into the wood. Use wire cutters to snip off the nail as close to the wood as possible. Be sure to use stainless steel nails to avoid rust or discoloration of the wood.

Sand the top of the pieces again so the wire and nails are flush with the surface of the wood. Apply your finish of choice. I use Danish oil.

ONLINE BONUS
Keep informed! Exclusive interview with the Petersons.
www.scrollsawer.com



Dave and Judy Peterson live in Monona, Wis. They are the authors of four puzzle-pattern books. For more of their patterns, visit www.FoxChapelPublishing.com.

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Making Easy Intarsia Magnets

Super simple pet designs are ideal for beginners

By Janette Square

I'm always trying to come up with inexpensive items to sell at arts and crafts shows. My small intarsia pieces, priced between \$25 and \$40, have always been very popular. I designed these magnets to be in the \$10 to \$15 price range. The magnets make great gifts and are fun to display.

The best part about these magnets is how easy they are to make. Each magnet consists of six pieces and requires minimal shaping. Beginners can expect good results on their first try and experienced scrollers can quickly build an inventory for sales or gift giving.

The magnets are an ideal way to use up wood scraps. You can create two magnets at once by cutting the shapes from stock that is $\frac{3}{8}$ " to 1" thick. Then slice the shapes in half to get two pieces from each one. Beginners, or those without access to a band saw, may want to use thinner wood to avoid cutting the pieces in half. You can also stack cut several pieces of thin stock to create multiple magnets.

I use bird's-eye pine and butternut for the solid-color magnets. Peruvian walnut is paired with alder or aspen for the two-color designs. Cover the wood with clear packaging tape and attach the patterns to the tape with spray adhesive. If you are making a solid-color magnet, you only need one copy of the pattern. If you are using contrasting wood, make two copies of the pattern and attach the different pattern sections to the appropriate stock.



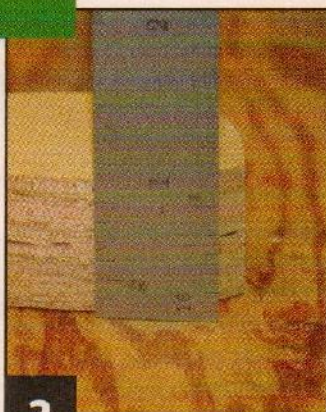
TIP EXTRA STRENGTH

For additional strength, add a $\frac{1}{8}$ "-thick backing board before drilling the hole for the magnet.

MAGNETS: CREATING THE INTARSIA



1 **Cut the pieces.** If you are cutting the magnets from a single piece of wood, you do not have to be as cautious about cutting exactly on the lines. If you plan to cut the pieces from two different colors of wood, the closer you stay to the line, the better the pieces will fit together.



2 **Slice the pieces in half.** This step is only necessary if you are using thick wood. Use a ruler to mark the center of one piece across its thickness. Use this mark to set the guide on the band saw. Use a holding block to cut each piece in half, producing two identical pieces. Resaw the smaller pieces in half with a scroll saw.

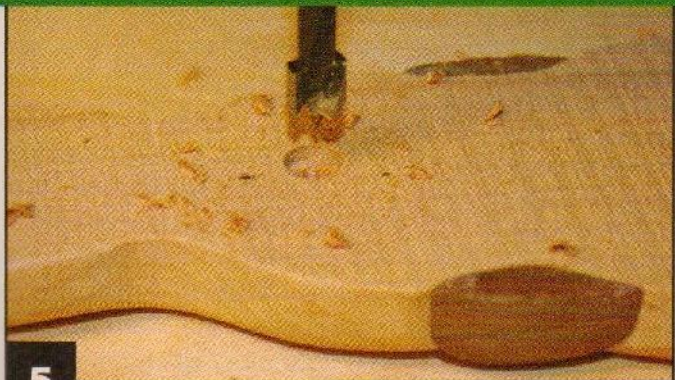


3 **Shape the pieces as desired.** Be careful when holding the small pieces. Use a 180-grit sanding drum and then a 220-grit sanding drum. Buff the pieces with a mop sander and hand sand any areas requiring extra attention. Dry assemble the pieces to check for fit and then glue the pieces together with wood glue.

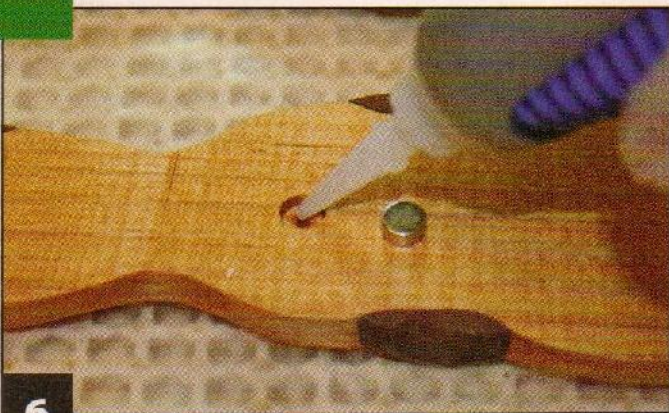


4 **Reinforce the tail.** Carve a small groove across the joint of the tail and the body with a rotary power carver. Make the groove slightly deeper than the thickness of the brad. Fill the groove with wood filler or epoxy and push the brad into the material. Let the filler dry and sand it smooth.

MAGNETS: ATTACHING THE MAGNET

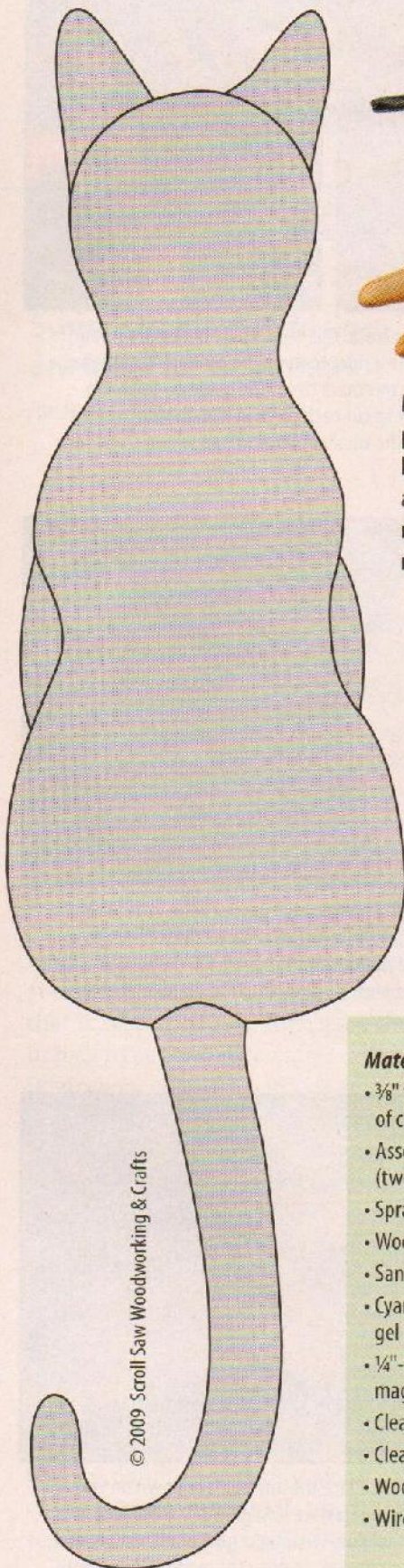


5 **Drill the hole for the magnet.** Chuck a $\frac{1}{4}$ "-diameter Forstner bit in a drill press and set the drill press to drill a hole $\frac{1}{2}$ the thickness of the magnet. Test the fit of the magnet in the hole. Set the magnet aside and apply your clear finish of choice. Let the intarsia pieces dry overnight.



6 **Attach the magnet.** Place the intarsia face down on wax paper. Carefully apply cyanoacrylate (CA) glue gel to the hole and place the magnet over the glue. Wear latex gloves and use a wood skewer or dowel, not your fingers, to push the magnet down until the glue dries. Remember to sign the back of the magnet.

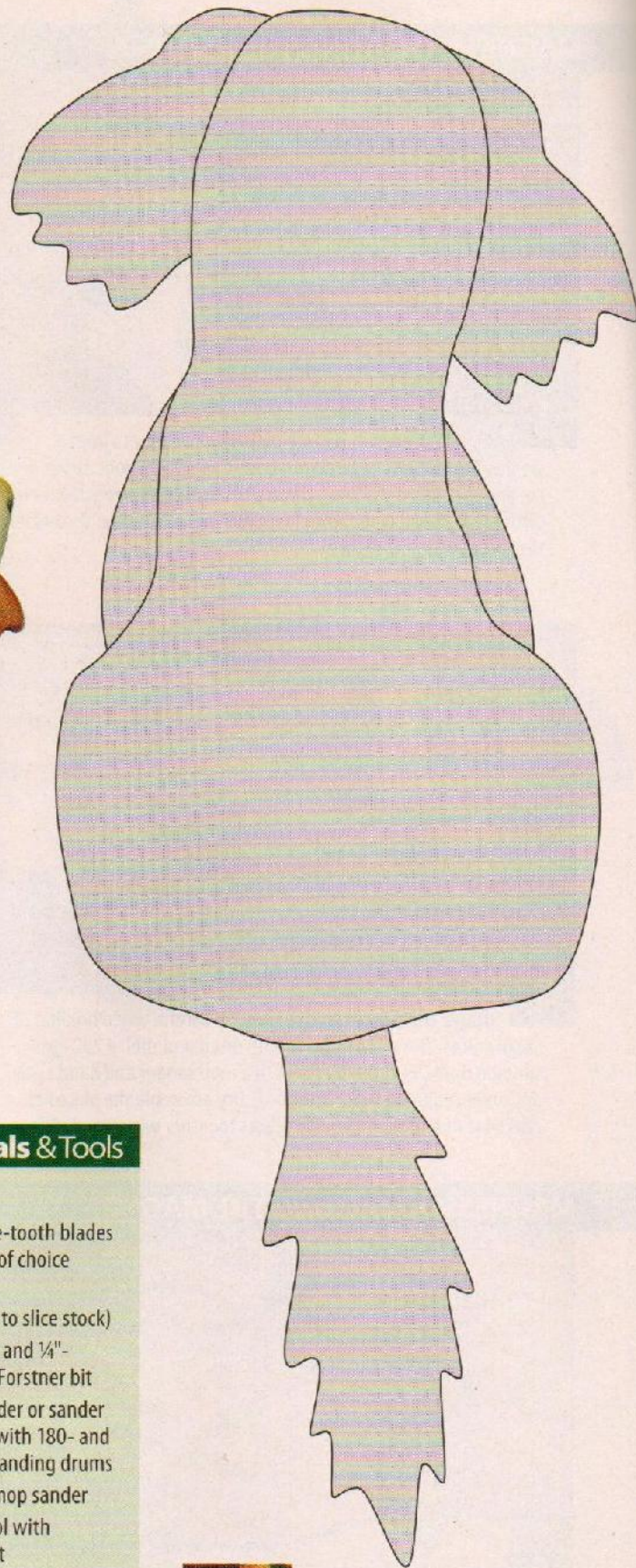
Pet magnet patterns



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Many full-size patterns can easily be simplified and reduced to make patterns for magnets.



Materials:

- $\frac{3}{8}$ " to 1" x 4" x 9" wood of choice (per magnet)
- Assorted scraps (two-color magnets)
- Spray adhesive
- Wood glue
- Sandpaper, 220 grit
- Cyanoacrylate (CA) glue gel (to attach magnets)
- $\frac{1}{4}$ "-diameter rare earth magnet (per magnet)
- Clear finish of choice
- Clear packing tape
- Wood filler or epoxy
- Wire brads: $\frac{1}{2}$ " x 18 gauge

Materials & Tools

Tools:

- #7 reverse-tooth blades or blades of choice
- Band saw
- (optional, to slice stock)
- Drill press and $\frac{1}{4}$ "-diameter Forstner bit
- Drum sander or sander of choice with 180- and 220-grit sanding drums
- 220-grit mop sander
- Rotary tool with carving bit
- Putty knife
- $\frac{1}{8}$ "-diameter wood dowel or skewer
- Ruler



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

Make a Fun Fish Trivet



Creative design uses dowels to join the individual slats

By John A. Nelson, cut by Dale Helgerson

This whimsical kitchen accessory is sure to catch a smile. The spaces between the slats help dissipate heat, protecting both the table and the trivet from hot dishes. The fish design also makes a unique place mat for cat food dishes.

Start by cutting the pieces to the dimensions listed in the materials list. Create a template from $\frac{1}{8}$ "-thick scrap plywood to make drilling the dowel holes easier. Attach the profile pattern to the template stock and drill two $\frac{1}{8}$ "-diameter holes as indicated on the pattern. Position the template over the stock, insert a nail through the $\frac{1}{8}$ "-diameter holes, and tap the nail with a hammer. This will produce dimples in the center of the areas to be drilled. Use the dimples to line up a $\frac{3}{8}$ "-diameter drill bit and drill the holes through each of the slats. Align the

template with the patterns for the head and tail, make the dimples, and drill the four $\frac{3}{8}$ "-diameter holes $\frac{3}{8}$ " deep.

Cut the two dowels to length. Slide the slats onto the dowels and glue the ends of the dowels into the tail and head. Use a scrap wood spacer to position the slats $\frac{1}{4}$ " apart and lock them in place with cyanoacrylate (CA) glue.

Apply spray adhesive to the back of the pattern and place it in position on top of the assembled blank. Cut the perimeter of the fish with a #5 reverse-tooth blade. Then drill a $\frac{3}{8}$ "-diameter hole where indicated for the eye. Remove the pattern and sand the piece with progressively finer grits of sandpaper up to 220 grit. Apply a coat of salad bowl finish or your finish of choice.

Materials & Tools

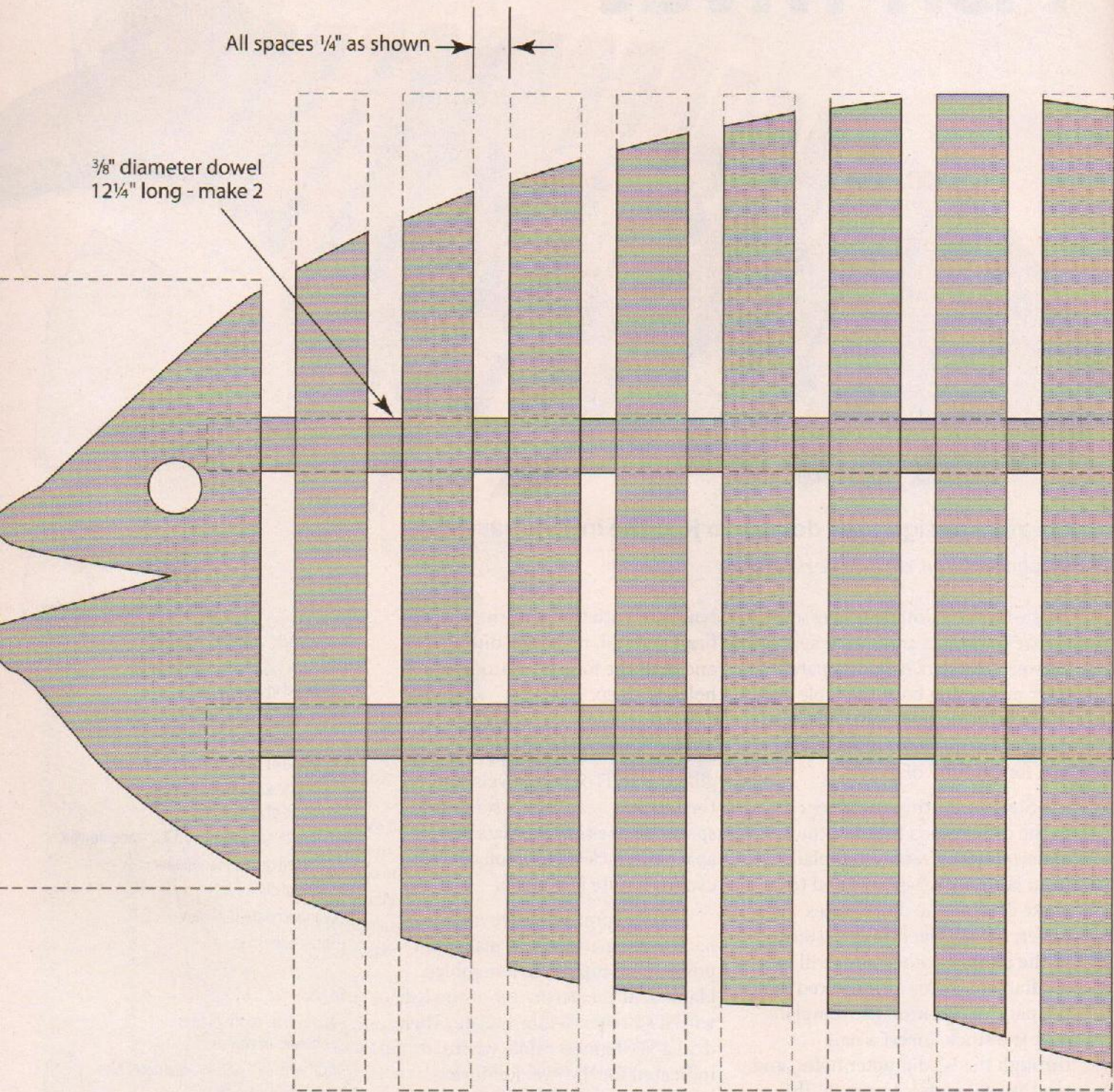
Materials:

- 15 each $\frac{1}{2}$ " x $\frac{3}{4}$ " x 7" hardwood or wood of choice (slats)
- $\frac{1}{4}$ " x $\frac{3}{4}$ " x 7" scrap plywood (template)
- $\frac{3}{4}$ " x 2" x $4\frac{1}{4}$ " hardwood or wood of choice (head)
- $\frac{3}{4}$ " x $2\frac{3}{8}$ " x $5\frac{3}{4}$ " hardwood or wood of choice (tail)
- 2 each $\frac{3}{8}$ "-diameter by $12\frac{1}{4}$ "-long dowels
- Assorted grits of sandpaper
- Finish of choice
- Cyanoacrylate (CA) glue
- Spray adhesive

Tools:

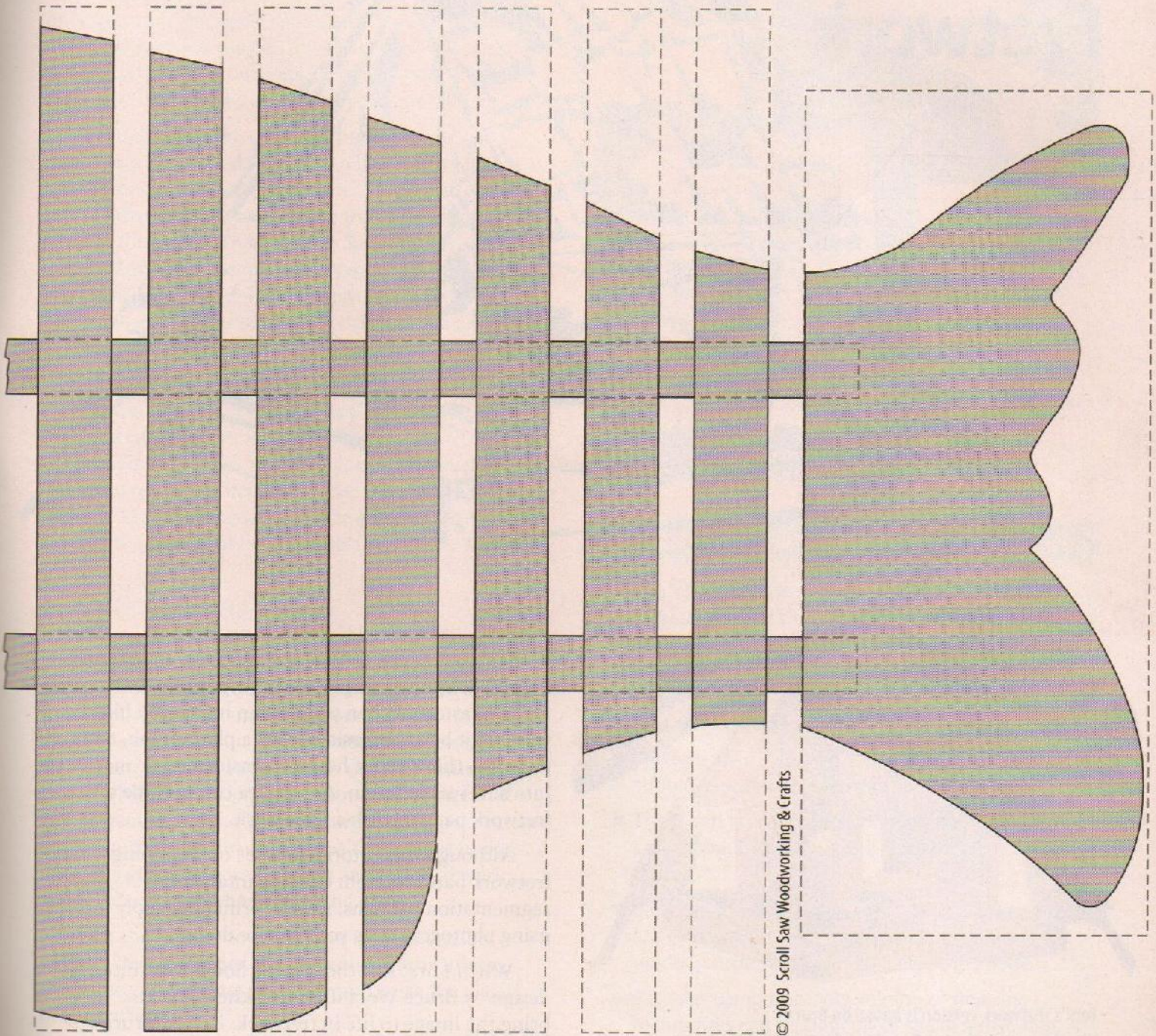
- #5 reverse-tooth blades or blades of choice
- Drill with $\frac{1}{8}$ "- and $\frac{3}{8}$ "-diameter bits
- Hammer and nail

Fish trivet pattern



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

Profile pattern



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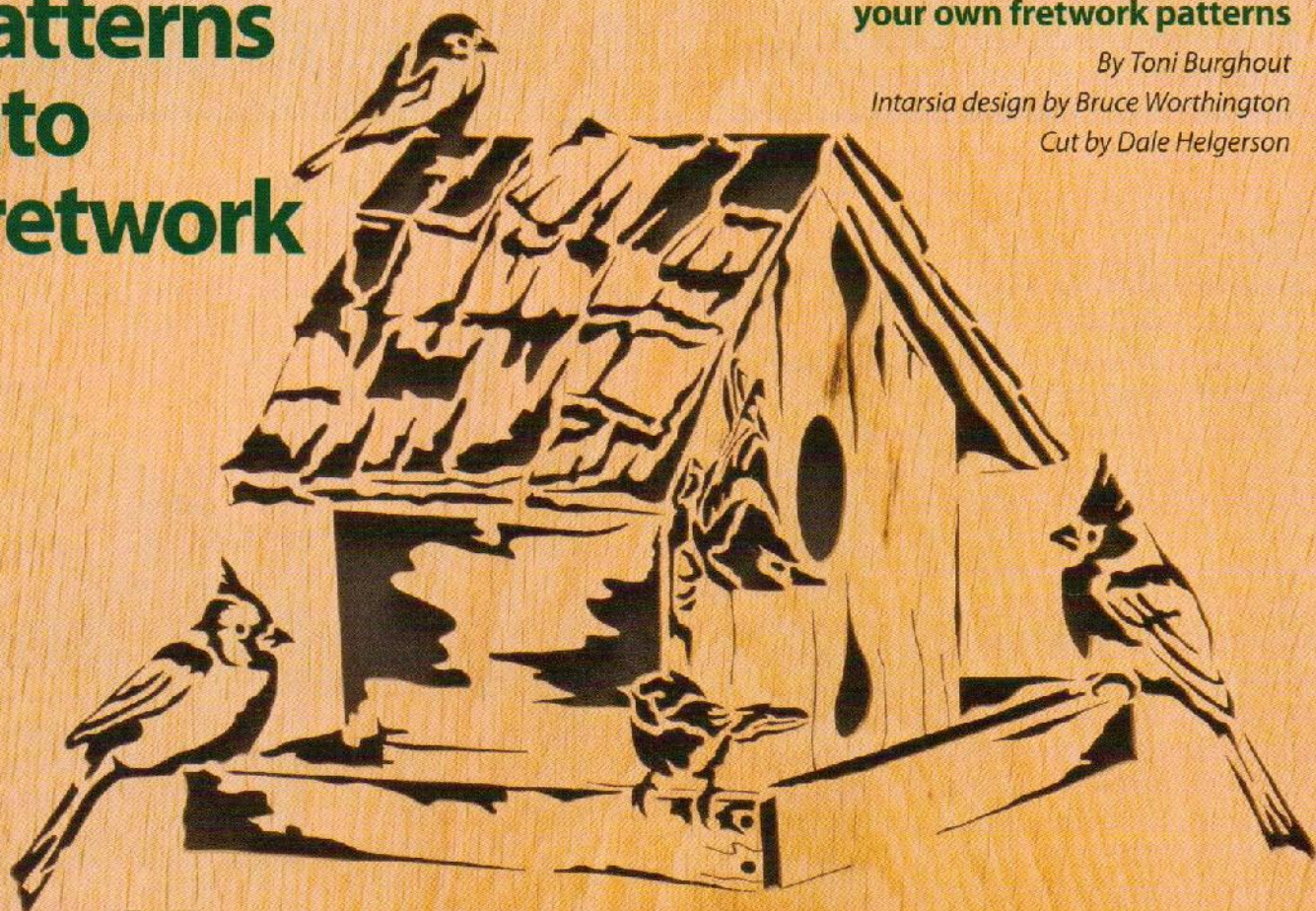
Transform Intarsia Patterns into Fretwork

Use tracing paper to create
your own fretwork patterns

By Toni Burghout

Intarsia design by Bruce Worthington

Cut by Dale Helgerson



Toni's fretwork version is based on Bruce Worthington's "Spring Songbirds" intarsia, featured in *SSW&C* Spring 2008 (Issue #30).

A good design with a pleasing composition is the basis for any pattern. When you find an image you like, whether it be an intarsia design, a photograph, or a painting, think about how to transform that image into a fretwork design. Any image can become a fretwork pattern with a little work.

Although this tutorial focuses on designing fretwork patterns from existing intarsia or segmentation patterns, similar principles apply for using photographs as your source design.

When I first saw the "Spring Songbirds" intarsia design by Bruce Worthington, I knew I had to bring the image to life in fretwork. I asked Bruce's permission to make a derivative fretwork pattern based on his design. When making a derivative pattern, it's fine to make changes and add your own creative vision, but it's important to obtain permission and credit your source.

Basic Design Decisions

Once you've selected your source image, decide if you want the image to define the perimeter of the project or if you want the fretwork enclosed in surrounding wood. Sometimes the design of the project will be determined by the image itself. In this case, I chose to enclose the birdfeeder in surrounding wood.

In addition to the changes needed to convert the image to a fretwork design, I also needed to make adjustments to accommodate the 20" throat on my saw. Taking the size constraints into consideration, I removed the branch above the birdhouse. You could add the branch as a separate fretwork element, giving the piece a layered look. I use both fine-line and open-cut techniques to convert this intarsia pattern to fretwork. I limit the use of veining to defining the wood texture and limits of the bird feeder.

Determine what you want as the focal point of the pattern. Consider what activity is portrayed in the original image as well as where you want the viewer's attention to go. I've decided to put the most detail into the birds and make them the focus of my pattern, leaving the bird house in a supporting role.

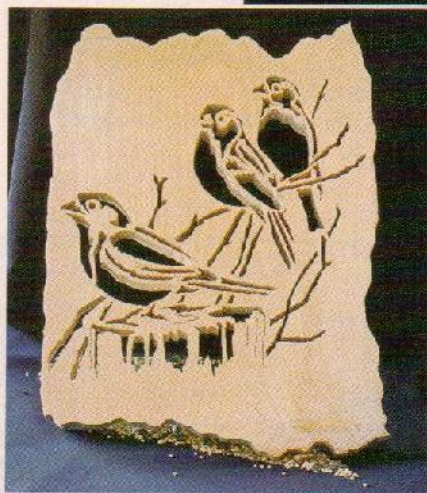
Tools and Supplies for Tracing

I recommend a graphite pencil when converting patterns manually. Graphite pencils smear less than regular lead pencils, dull slower, and give you sharper lines. This is important when working with intricate areas of a pattern. You will also need an eraser, a pencil sharpener, masking tape, a sheet of white unlined paper, white correction fluid, a fine-tip marker, and a roll of tracing paper. I prefer to use tracing paper that comes in rolls instead of the type that comes in pads. The rolls give me more freedom and space to work since I can decide when to cut the paper.

Test the marker to make sure it is compatible with the tracing paper. Any bleeding of the ink or thickening of the lines could compromise the clarity of the pattern.

Since the intarsia pattern provides me with a wonderfully clean reference to work from, I only need an overhead light. If you find it difficult to see the original, you may need to use a light board or tape the drawing and tracing paper to a window or patio door.

In this fretwork design, the silhouette of the owl is the outline of the pattern. The details are defined with the fine-line cutting technique.



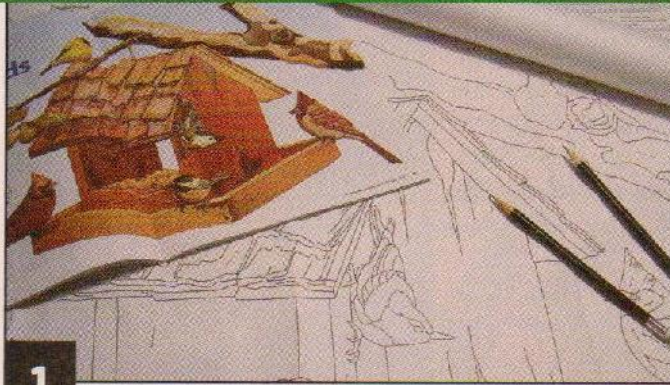
"Sparrow Watch" incorporates a border of uncut wood around the design and utilizes the open-cut technique.

DESIGNING GOOD FRETWORK PATTERNS

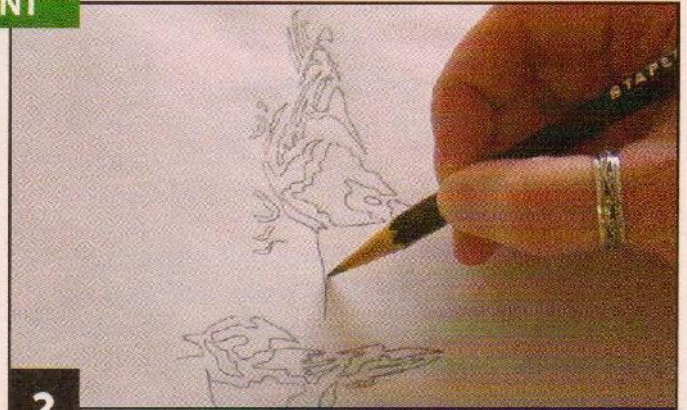
Designing good fretwork patterns requires an understanding of the basics of cutting fretwork. Patterns must appeal to the end user and they must lend themselves to how scrollers will use them, not necessarily what is easiest for the designer to create.

- Patterns should have a clear definition of what should be cut away and what remains.
- There can't be any non-connected elements, called floaters, that will fall out when the design is cut.
- Patterns should have a good balance between areas that will be cut away and the remaining wood in order to properly define the image.
- Patterns using primarily veining or fine-line techniques can be difficult to see at a distance.
- A simple pattern with well-defined cuts often produces a more pleasing end result than a complicated pattern with lots of fine-line cuts and veining.

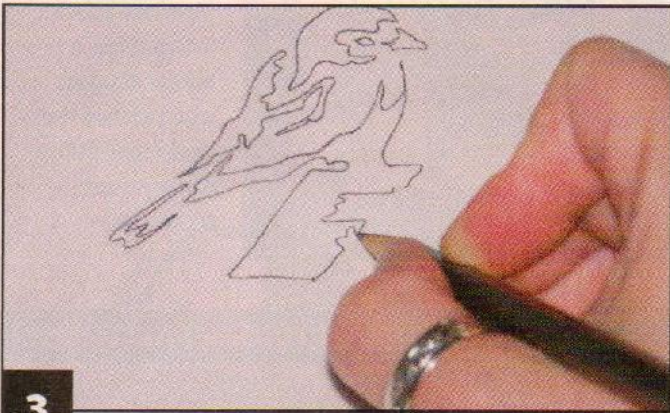
FRETWORK PATTERNS: DEFINING THE FOCAL POINT



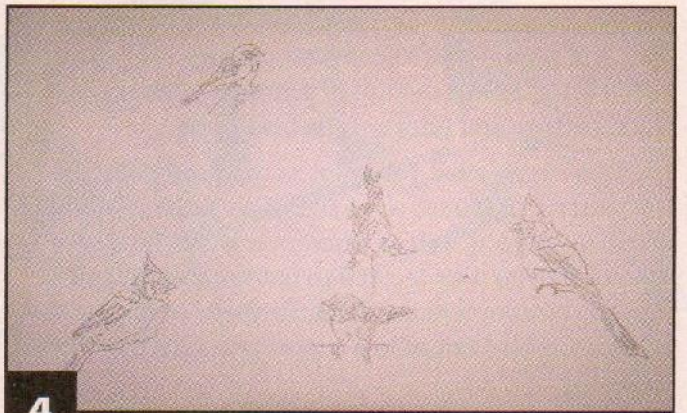
1 Prepare to trace the design. Gather your tools. Tape the original image or design onto the work surface. Cover the original with tracing paper and tape the tracing paper in place. Make sure you have adequate lighting that will not put a strain on your eyes. It's important to keep a pencil sharpener handy and use it as often as needed to keep your lines crisp and clean.



2 Trace the two inside birds. I capture the features of the birds with open cuts. Be sure to leave the bridges, or areas of wood connecting the open cuts, thick enough to support the fretwork. I add a few fine-line veining cuts adjacent to the birds to define their relation to the birdfeeder. Because I don't use veining cuts on the birds, there is a clear distinction between the wood and the bird.

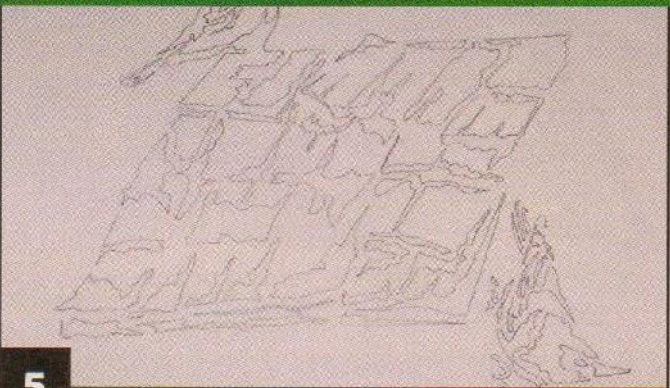


3 Add the third bird. The bird perched on the top corner of the birdhouse gave me the most difficulty. When determining how to connect the bird to the roof, I had to focus on what you can see when looking at the shadows. I removed the bird's feet and grouped the bird in with the open cut I use to establish the shingle.

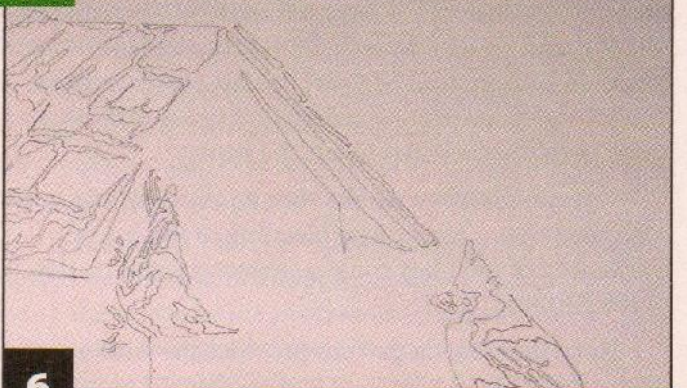


4 Add the remaining birds. It is tempting to proceed with defining the rest of the shingles, but it's important to complete one element of a pattern at a time. You want all the birds to have a consistent look. These birds are easy to add because they don't have to compete with the cuts needed to define the birdfeeder.

FRETWORK PATTERNS: ADDING MAJOR ELEMENTS



5 Trace the shingles. Because I already defined one shingle, I move on to this element next. In most cases, I've cut away the sides of the shingles to show their depth. I carefully add some veining to show the edges of the shingles when necessary.



6 Define the back of the roof. Keeping in line with visualizing the shadows, I use one long open cut to define the underside of the eave. I add rectangular-shaped cuts to define the shingles on the back of the roof.



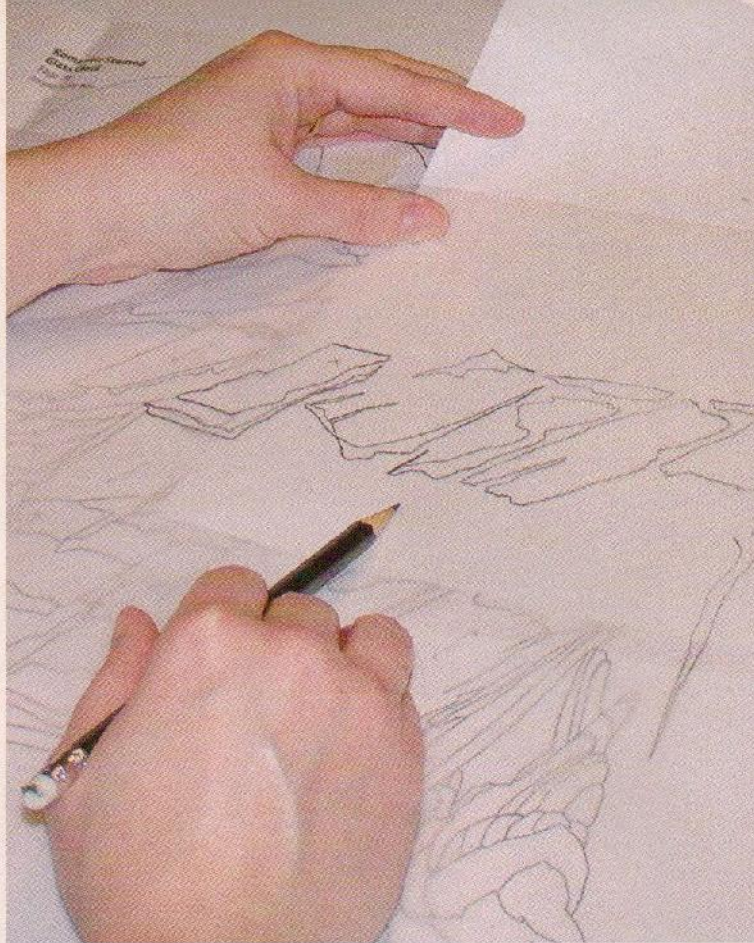
7

Add the main structure of the birdfeeder. I eliminated the seeds altogether because of their location and complexity. I don't want the birds to have to compete with intricate seeds. I use a combination of open cuts and fine veining lines to simulate the wood grain.



8

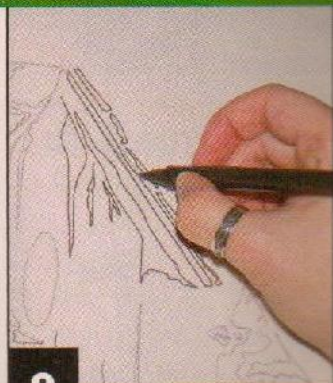
Tie the elements together. Some of the intarsia elements can be transformed to fretwork with few adjustments. For the nails, I just trace around the circles. Slip a piece of paper between the source image and tracing paper to check for floaters or structural problems and get an overall sense of the finished design.



TIP CHECKING PATTERN RESULTS

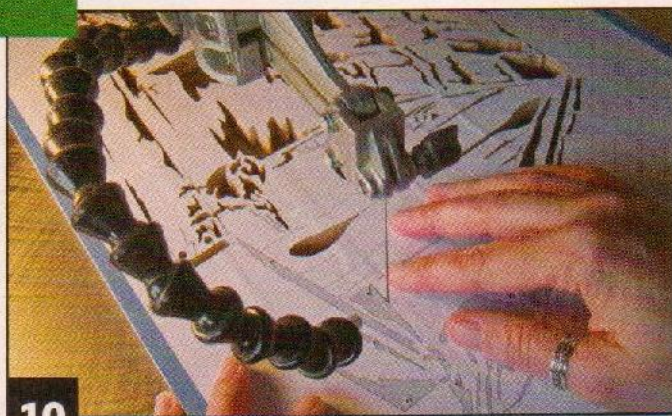
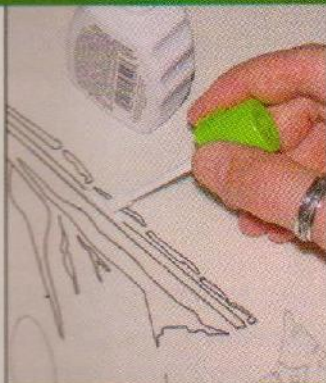
To check the clarity of the pattern, slide a piece of white paper between the tracing paper and the original. This technique removes the "noise" or other elements from the area, allowing you to decide if the image is defined well enough to move on.

FRETWORK PATTERNS: FINISHING THE PATTERN



9

Retrace the lines. Trace along the lines with a fine-tip marker. As you trace the lines, constantly check each area for structural problems and make adjustments as necessary. If you find you need to make corrections to areas you have already traced with the marker, use white correction fluid and redraw the altered lines.



10

Create the final draft. Leave the pattern alone for a few days and then view the final pattern with fresh eyes. When you are happy with the final version, test cut the pattern. Test cutting should never be replaced with manipulating a pattern with photo-imaging software. Test cutting ensures the pattern can be cut on a scroll saw and will quickly alert you to any problem areas.

Materials & Tools

Materials:

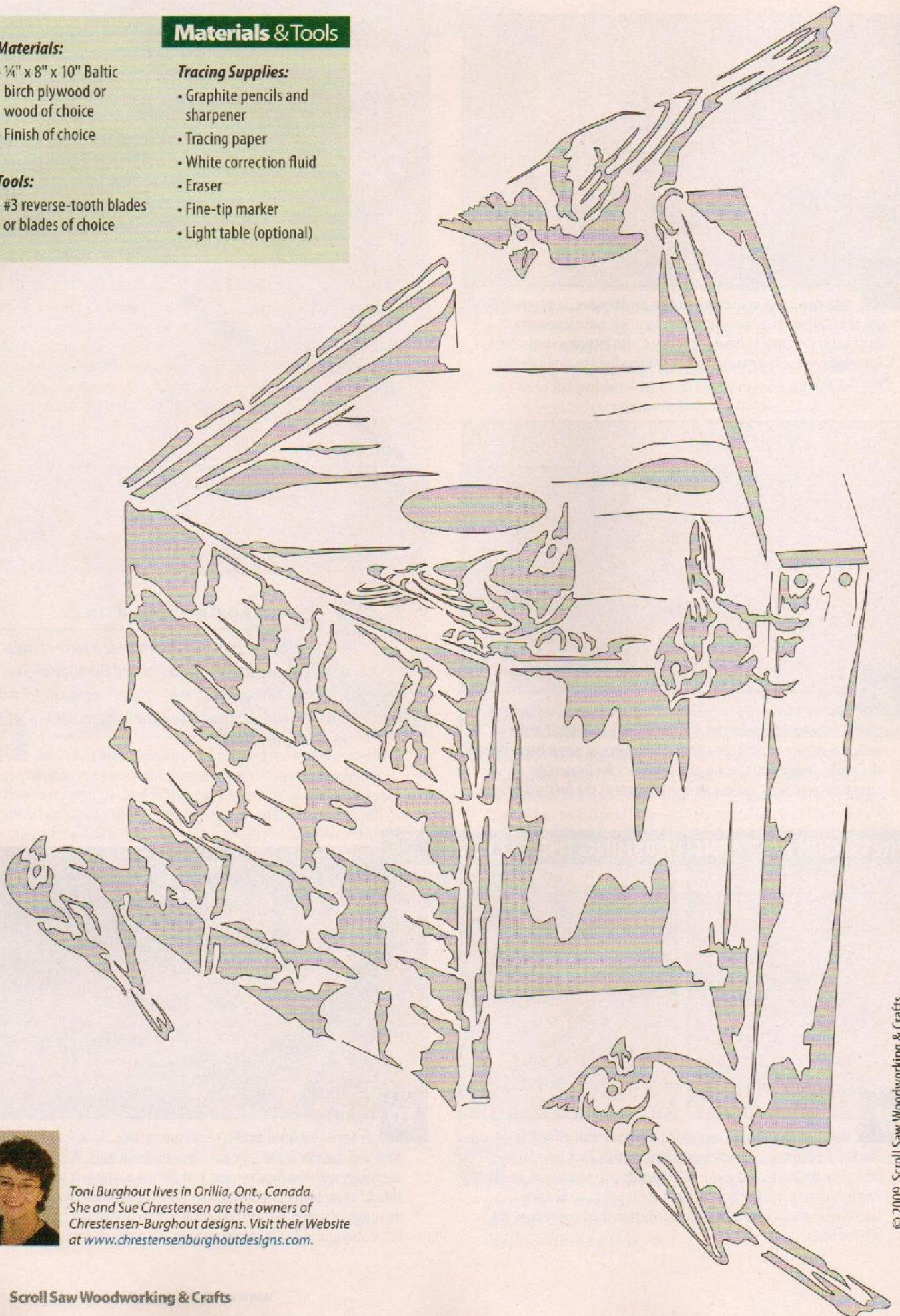
- ¼" x 8" x 10" Baltic birch plywood or wood of choice
- Finish of choice

Tools:

- #3 reverse-tooth blades or blades of choice

Tracing Supplies:

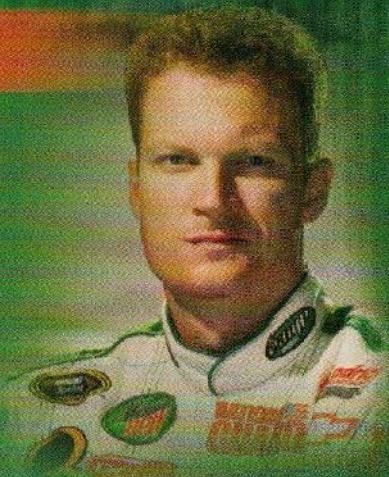
- Graphite pencils and sharpener
- Tracing paper
- White correction fluid
- Eraser
- Fine-tip marker
- Light table (optional)



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

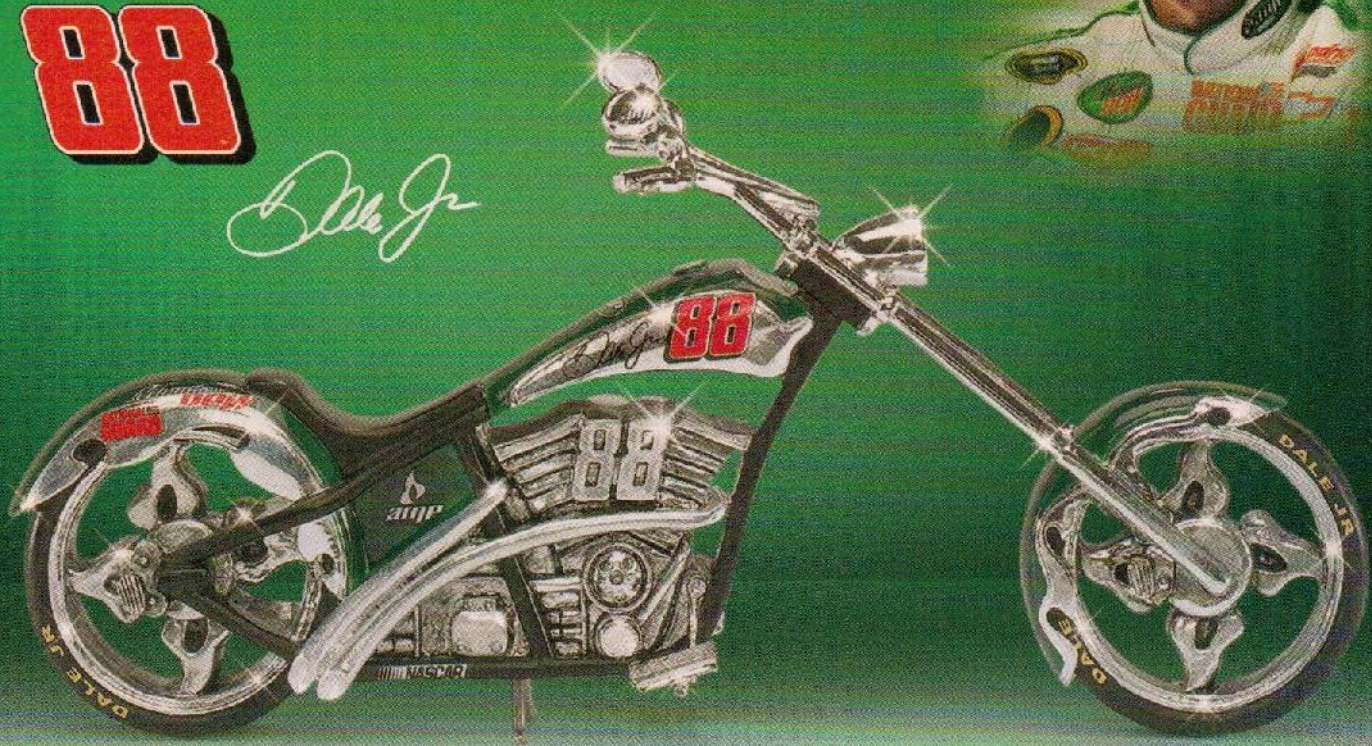
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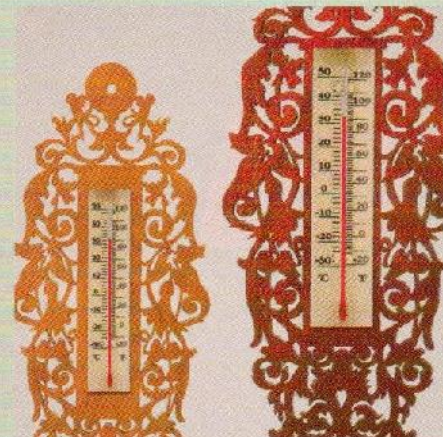
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Judy Gale Roberts shares a fun scarecrow intarsia



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Blue Pine

Beetle-damaged wood is a boon for intarsia artists

By Janette Square

Blue pine, sometimes called denim pine, isn't an actual species of wood. Blue pine is a term coined to describe pine lumber, usually from lodgepole pine trees, that has been infected and killed by the mountain pine beetle.

Lodgepole pine is found in the northwestern United States and western Canada. The mountain pine beetle attacks sick or weak trees. The beetle introduces a fungus to the tree as it bores through the bark. The end result is the tree's death. The fungus causes the blue staining throughout the tree. It is not a mold that can be planed off the surface.

In recent years, trees have become more stressed, possibly due to drought conditions, and the beetles aren't dying off because of warmer winter temperatures. This combination has caused widespread beetle infestations resulting in a higher quantity of infected trees.

Working with Blue Pine

Long thought to be undesirable in the lumber industry, blue pine is basically the same as regular pine. Studies have been done and few differences with regard to strength and other lumber characteristics have been found. Blue pine does tend to be less prone to warping. It works well with machine and hand tools and is quickly gaining popularity for use in cabinet making, furniture, flooring, and log homes.

It is easy to cut with a scroll saw and shapes quickly. Care must be taken when sanding because it is a soft wood, and be sure to wear a dust mask.

I frequently use blue pine in intarsia. There are many variations in the coloring, from slight gray streaking to solid gray. One thing to keep in mind is the beetle holes. Some boards have virtually no holes in them at all, but others are full of holes. Depending on your project, you will have to select the boards carefully. I save the pieces with the most beetle damage to use for distressed looking areas, such as the pier a pelican would sit on.

The most frustrating aspect of working with blue pine is shaping a piece and having a beetle hole appear out of nowhere. These holes can be filled by mixing wood glue with sawdust collected from the piece of wood containing the hole. I have learned to embrace the natural beauty of the wood and accept the holes as part of the outcome.

The grey-blue wood used in this intarsia heron is the natural color of blue pine.



Finishing Blue Pine

Blue pine absorbs finish like a sponge. You can use a wood conditioner prior to finishing; however, blue pine doesn't absorb finish as unevenly as ordinary pine because the lumber is more consistently dry throughout. Regular pine will typically have both dense and soft areas within one board. Varnish and shellac are good choices for a finish because they build a film on the surface rather than soaking into the wood like oil finishes.

Summary

Although the devastation of pine forests is reaching epidemic proportions, the silver lining for woodworkers is that blue pine should become more readily available and easier to find. I recommend going to your local lumber yard and requesting it. The higher the demand, the easier it will become to find. If you don't have a supplier in your area, you can usually find blue pine on the Web. One source is The Handsome Woodman, 360-260-6908, www.thehandsomewoodman.com.

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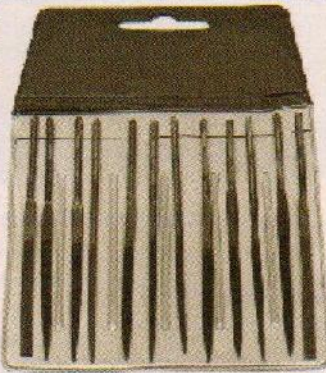


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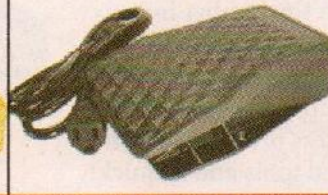
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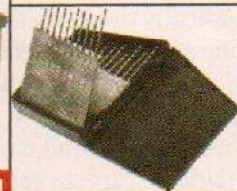
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Spiral Tooth Blades
2/0, 0, 2, 4, 6
\$2.30 a Doz - \$23.00 a Gross

Crown Tooth Blades
2/0, 2, 3, 5, 7, 9, 12
\$2.50 a Doz - \$25.00 a Gross

Precision Ground Tooth
5, 7, 9,
\$3.90 a Doz - \$39.00 a Gross

"NEW" PGT Double Tooth
5, 7, 9,
\$3.90 a Doz - \$ 39.00 a Gross

"NEW" Mach Series Reverse
3, 5, 7, 9
\$3.00 a Doz—\$30.00 a Gross

"NEW" Thick Wood Blades
408-TW
\$ 3.20 a Doz—\$32.00 a Gross

Metal Cutting Blades
1, 5, 7, 9, 12
\$3.20 a Doz—\$32.00 a Gross

"NEW" Flat End Spiral
2, 4
\$3.00 a Doz—\$30.00 a Gross

You may mix or match the same style blades for gross pricing

All the blades above are 5" Plain End "OLSON" Blades

We also stock:

- 3" pin end blades - 2 sizes
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- 6" plain end blades - 4 sizes
- 5" Plain End Jewelers Blades

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Solid Colors

\$ 9.95 ea
1/8"x12"x24"
Red, Blue, Light Blue, Green, Yellow, Orange, Black, White, Pink, Ivory, Brown, Purple, Frost White, Turquoise, Gray

Transparent Colors

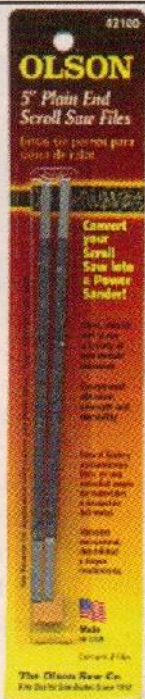
\$9.95 ea
1/8"x12"x24"
Red, Blue, Light Blue, Green, Yellow, Orange, Smoke, Bronze, Purple, Clear (clear only \$ 7.50 each)

Mirrored Colors

\$17.50 ea
1/8"x12"x24"
Red, Blue, Green, Yellow, Orange, Pink, Purple, Gold, Bronze, Gray, Teal, Clear (clear only \$ 15.00 each)

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#CK103 - Ivory Arabic
#CK102 - Gold Arabic



#CK101 - White Roman
#CK104 - Ivory Roman
#CK105 - Gold Roman

1+ \$5.25 ~ 10+ \$4.85 ~ 30+ \$4.50
1 7/16" Inserts, Glass Lens, Stainless Steel Back, With Battery
NO RUBBER GASKETS - MIX OR MATCH PRICING !!!



#CK106
1 7/16" Fancy Gold & Black Dial, Arabic Numbers
1+ \$6.00 - 10+ \$5.65
30+ \$5.25



#PHOTO-1
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30+ \$1.55
We also have 2" Photo Inserts

All Clock & photo inserts have a gold tone bezel. Clocks include battery. All require a 1 3/8" mounting hole 5/16" deep.

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By Kathleen Ryan

Woodworkers Banding Together for Kids

Kids at Harrisburg (Pa.) Hospital now have a little bit more to smile about. That's because of Caitlin's Smiles, a non-profit organization dedicated to helping children with chronic or life-threatening diseases. The organization provides free Bags of Smiles craft kits so kids can focus on fun activities.

Celebrating its fifth year, the organization has delivered over 55,000 Bags of Smiles and stand-alone crafts to more than 30 hospitals in five states. It's all part of one woman's heroic efforts to meet the needs of children like her daughter, Caitlin Mary Hornung, who was diagnosed with a malignant brain tumor in 1997.

"Arts and crafts were a great escape for us, but sometimes even finding a crayon or blank sheet



The plane in the kit is Ron Forsyth's P-38, published in *SSW&C* fall 2008 (issue 32). Ron granted permission for Caitlin's Smiles to provide the pattern to their volunteers.

of paper could be a challenge," explained Cheryl Hornung, Caitlin's Smiles' founder and director.

"Thinking back on what helped us the most led us to come up with our Bags of Smiles program."

Caitlin lost her battle with cancer, but through her mother, family, friends, and volunteers, her smiles continue on in other children's faces.

How You and Your Club Can Help

Caitlin's Smiles needs age-specific and gender-specific, ready-to-assemble projects, such as beads and charms for bracelets, airplanes,



An 11-year-old boy recovering from surgery receives a Bag of Smiles from Caitlin's Smiles.

cars, trucks, puzzles, games, etc.—anything kids can put together, build, color, or paint at a treatment center. Place the pieces in plastic bags with instructions, and Caitlin's Smiles will add wood glue, paint, and markers.

"As word gets out about what we do, more and more hospitals are requesting these kits," said board member Randy Barr. "We hope to give them all Caitlin's Smiles."

The group also accepts monetary donations. For information visit their Website at www.caitlins-smiles.org.



Nic Neidenbach reverse engineered this prop gun by envisioning a 3-D wooden puzzle and cutting the parts on his scroll saw.

Prop Weaponry on a Scroll Saw

When Nic Neidenbach needed a gunblade (sword) to complete the look of his first sci-fi costume in 2004, he made it using a jigsaw and an X-Acto knife. Then he discovered the scroll saw, and a whole new world of prop weaponry possibilities opened up, culminating in the incredibly realistic Cosmo Dragoon gun prop made to accompany his Captain Harlock costume. Captain Harlock is a heroic space pirate from a Japanese animation film.

"I began by envisioning the gun as a 3-D wood puzzle," Nic said. "After creating a pattern for all of the pieces, I cut them out of 1/2"-thick birch plywood and basswood. The barrel of the gun and some of the other cylindrical pieces are made from

dowels. I used maple for the handles. I attached the pieces together using wood glue and putty, and did a lot of sanding to bring the gun into shape."

After applying gesso primer to help hide the wood grain, Nic finished the gun with metallic spray paint. He stained the maple handle pieces to let the natural wood grain show through. The skulls on the handles are decals printed from his computer.

"I enjoy trying new things," Nic added. "All of the positive feedback about the quality of my props has been very gratifying for me."

For more of Nic's work, visit his blog at hyperionedge.blogspot.com/.

Your Vision. Our Tools.

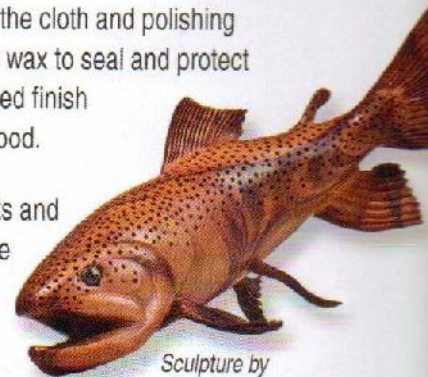
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King Arthur's Tools® consults with artists and craftsmen around the world to make the *tools to bring your vision to reality.*



Intarsia by
Judy Gale Roberts



Sculpture by
Tom Dean



ACCESSORIES AVAILABLE:

- 4 Inflatable Rubber Sanders (2"x2" Round Dome, 2"x2" Drum, 3 1/4" x 1" Long and 1 1/4" x 3/4" Short)
- 4 Grades Cloth-Back Sanding Sleeves
- Brush & Cloth Polishing Sleeves
- Micro Hand Pump
- 52" High Quality Flex Shaft
- Dust Extractor & Extender (not pictured)
- Organic, Food-Safe Wax

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SCROLLSAW

Woodworking & Crafts

Summer 2009 - Issue 35

1970 Broad Street
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Potpourri Pot

WC Issue 35

and Carol Bishop

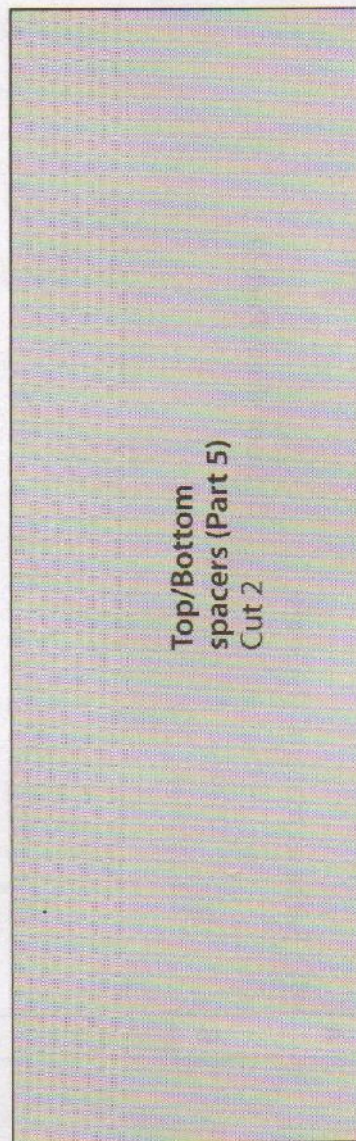
Build an Italian Fretwork Clock

Page 28 - SSWC Issue 35

Designer: John A. Nelson

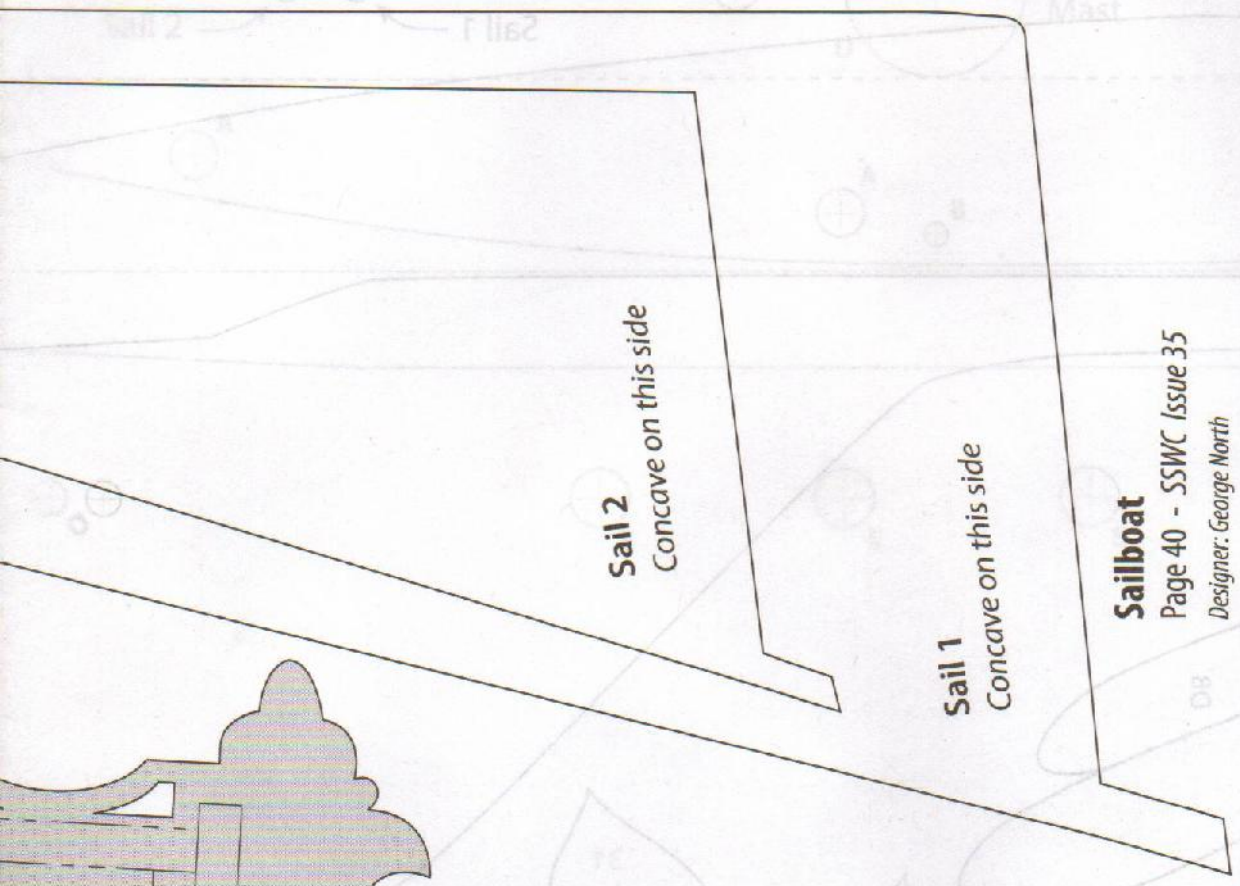
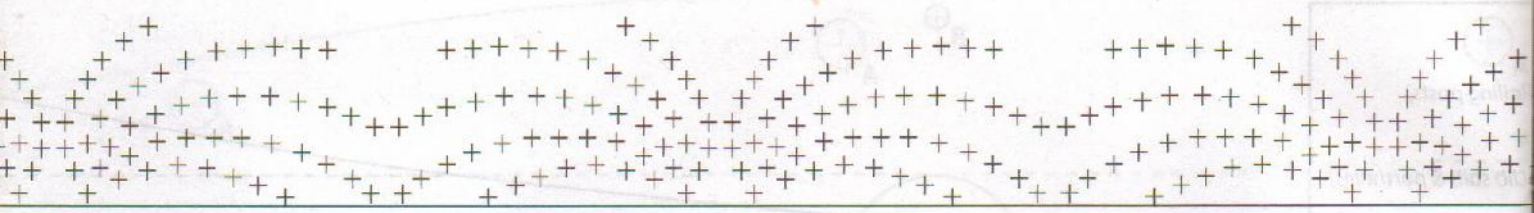
IMPORTANT:

Make all "x" same size



$\frac{5}{32}$ " diameter hole (24)

$\frac{2}{8}$ " diameter ho



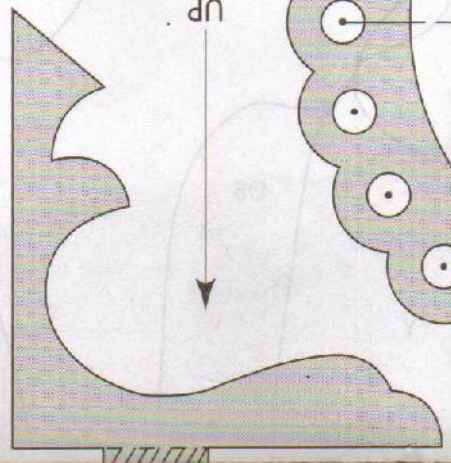
Sail 2
Concave on this side

Sail 1
Concave on this side

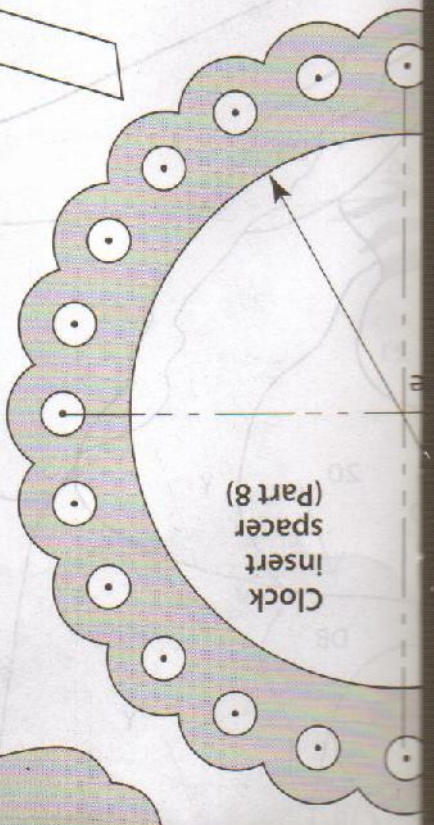
Sailboat
Page 40 - SSWC Issue 35
Designer: George North

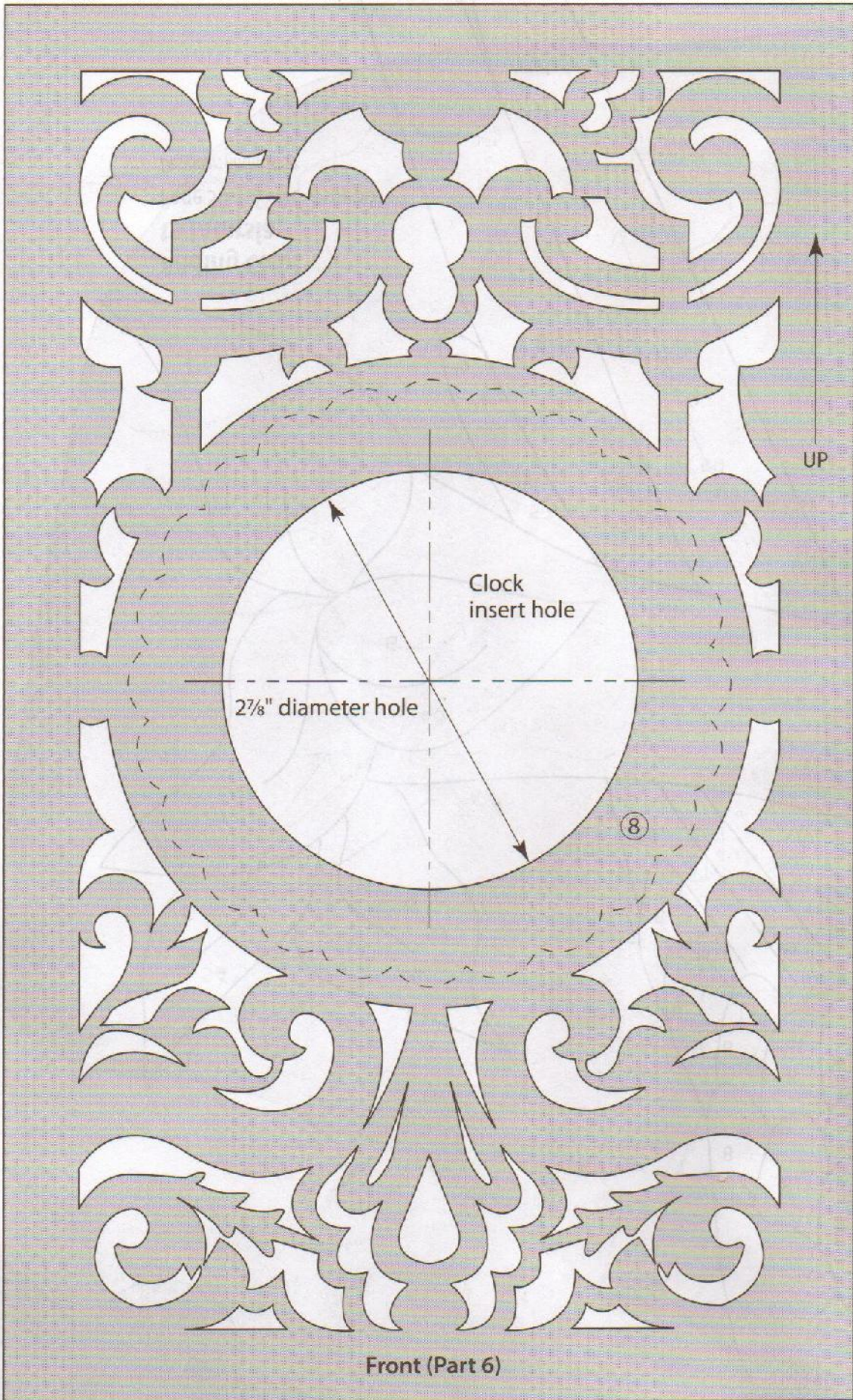


Braces
(Part 7)
Cut 2

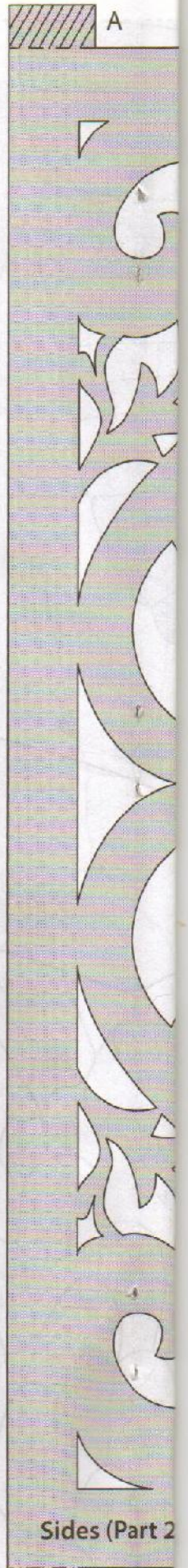


Clock
spacer
insert
(Part 8)

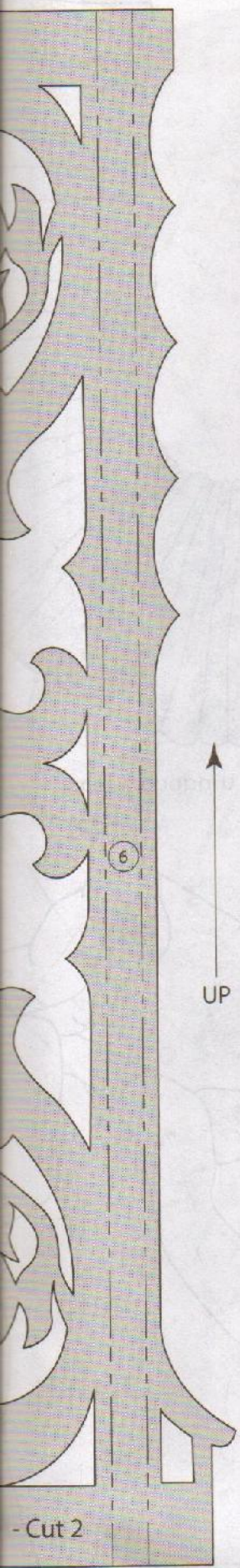




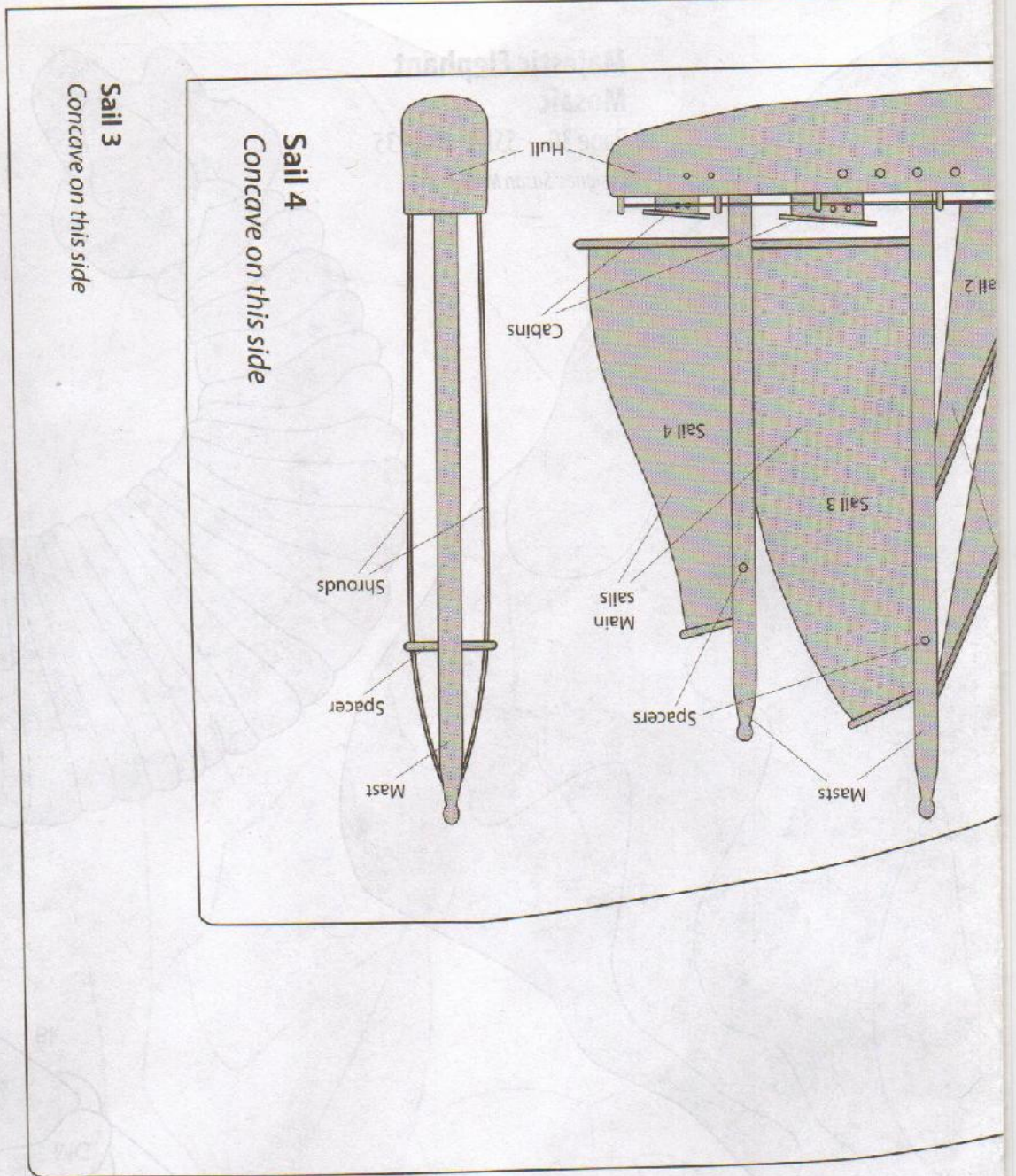
Front (Part 6)



Sides (Part 2)

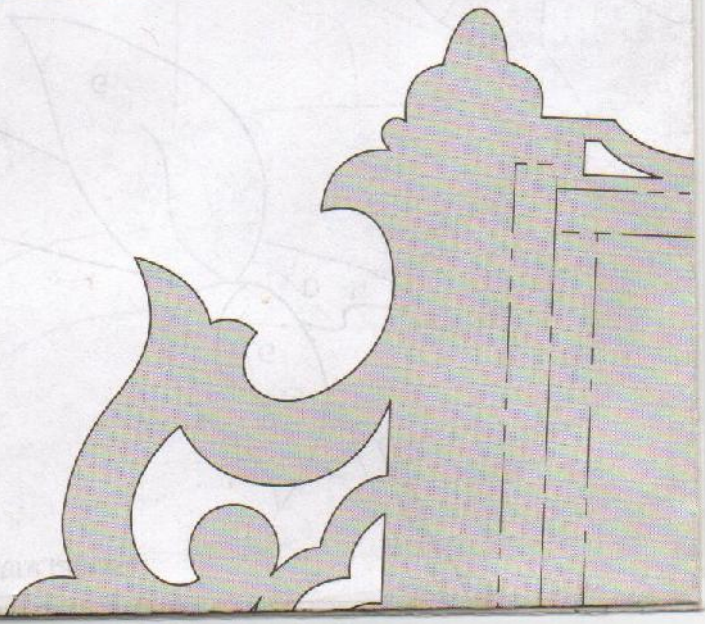
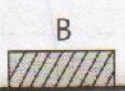


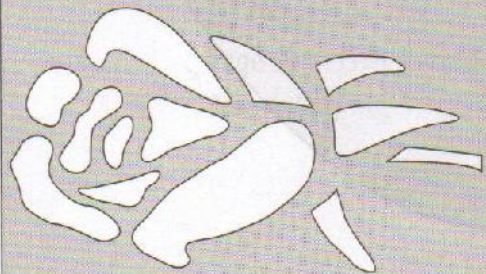
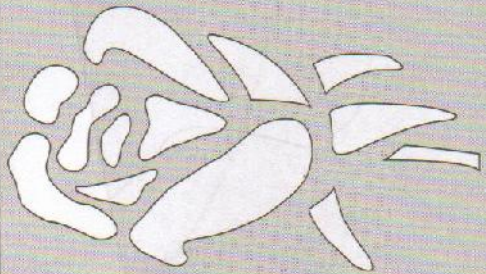
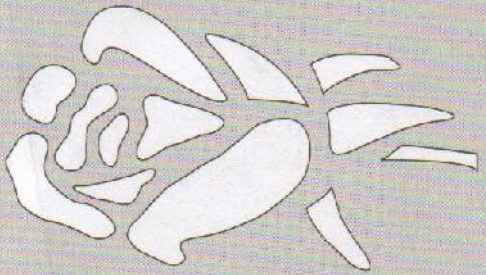
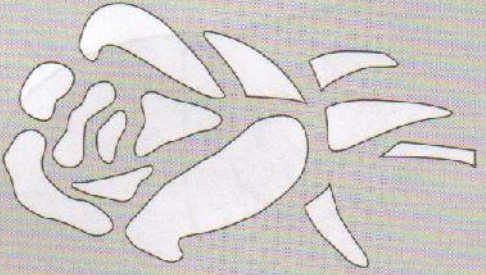
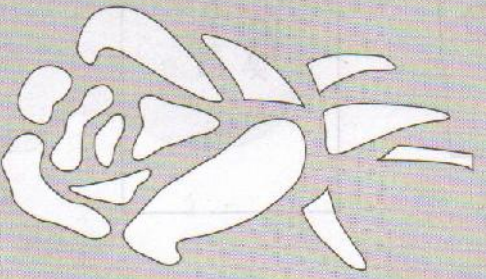
UP ↑



Sail 3
Concave on this side

Sail 4
Concave on this side

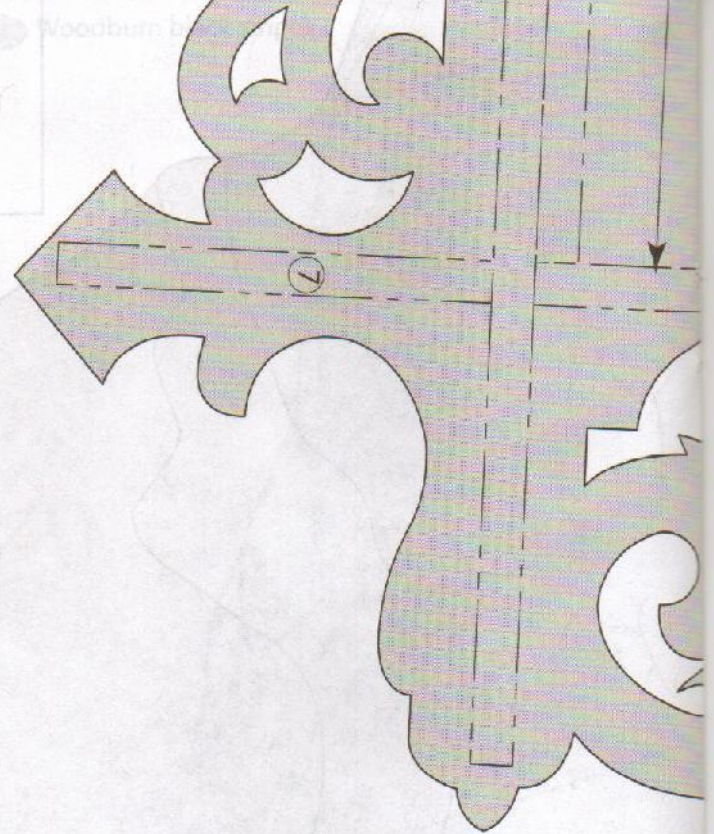




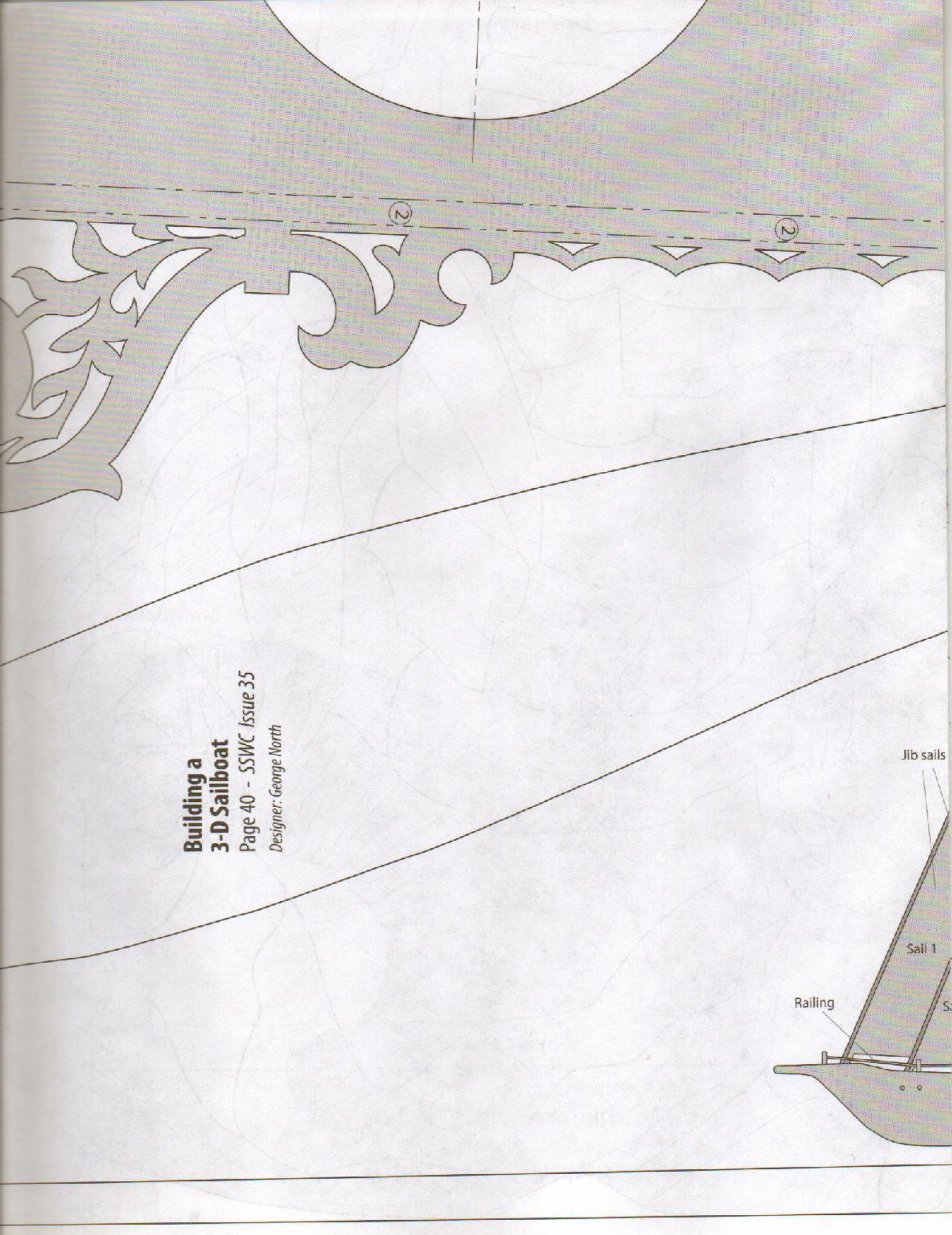
Cutting a Potpourri Pot

Page 54 - SSWC Issue 35

Designer: Homer and Carol Bishop



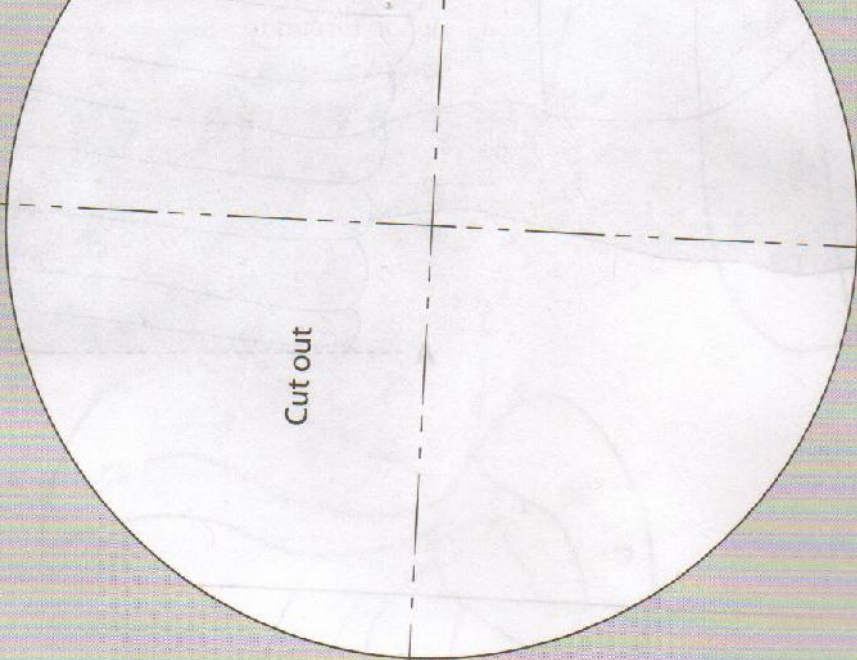
**Building a
3-D Sailboat**
Page 40 - SSWC Issue 35
Designer: George North



Jib sails

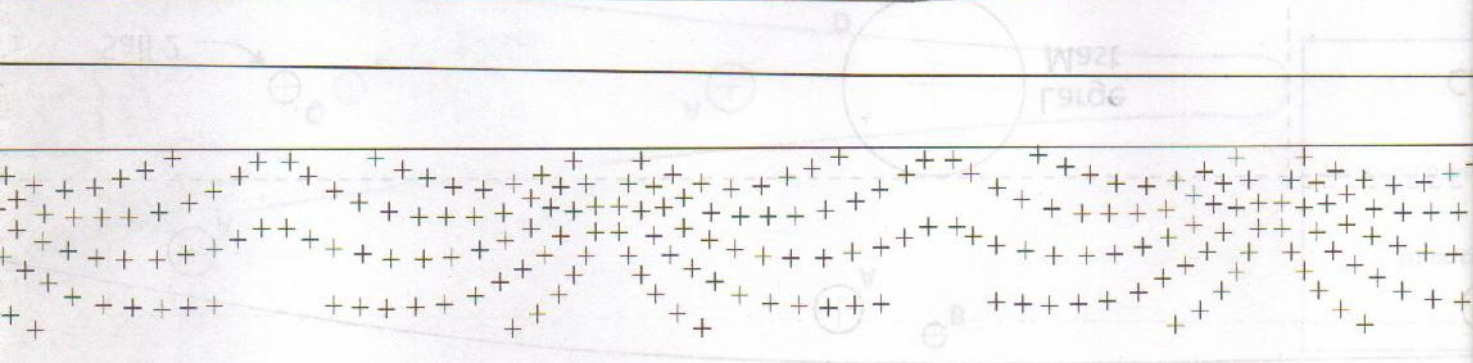
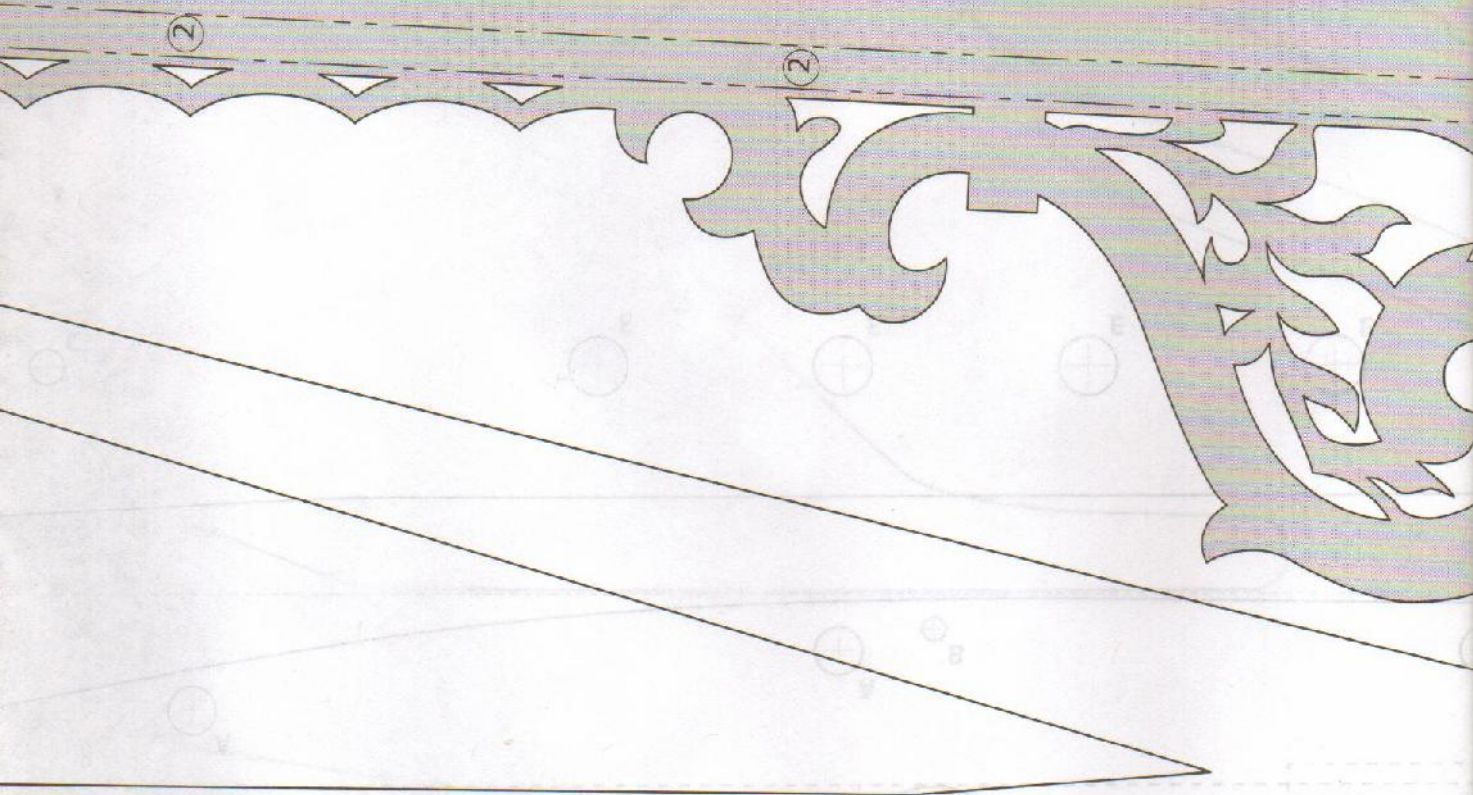
Sail 1

Railing



Cut out

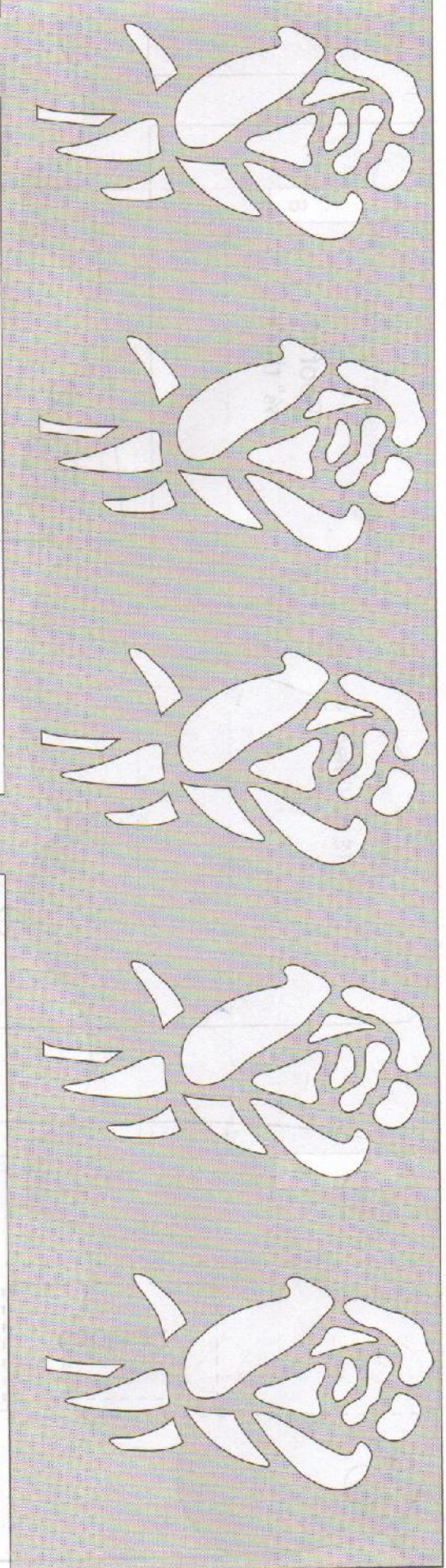
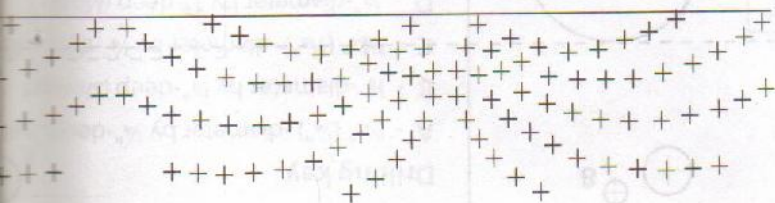
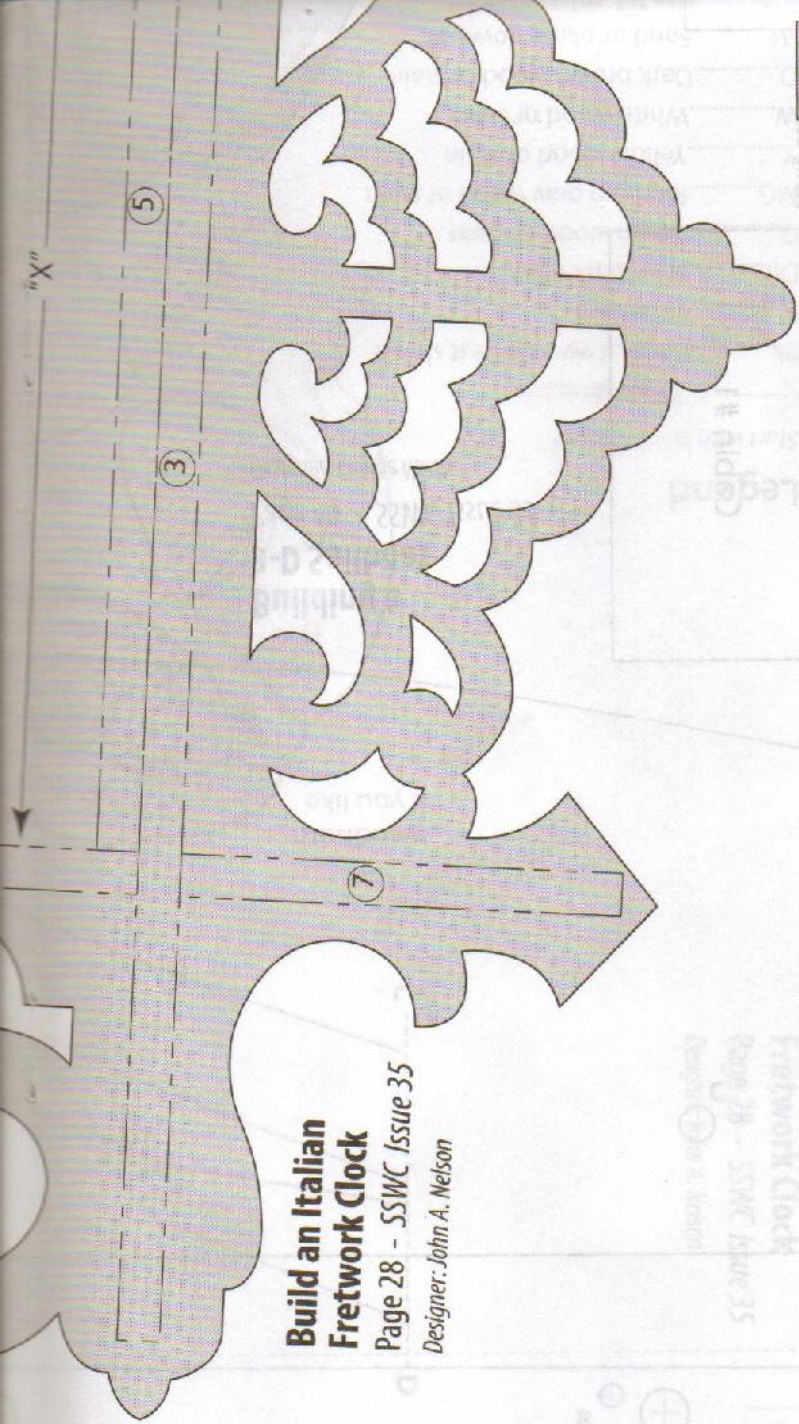
Back (Part 1)



**Build an Italian
Fretwork Clock**

Page 28 - SSWC Issue 35

Designer: John A. Nelson

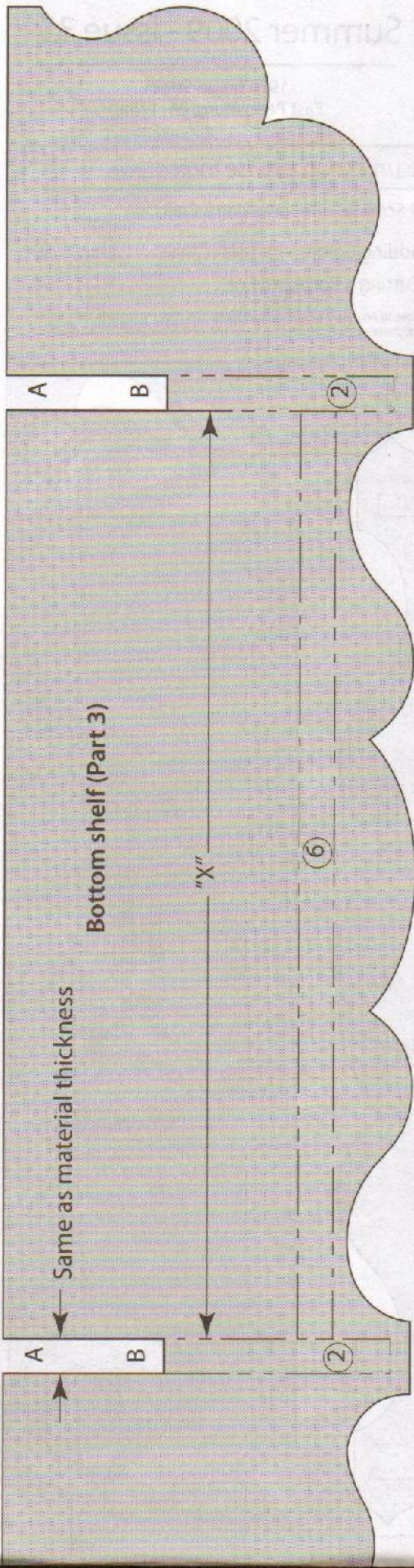


entire piece.



Majestic Elephant
 Mosaic
 Page 30 - SSWC Issue 35
 Designer: Susan Mathis

A



Bottom shelf (Part 3)

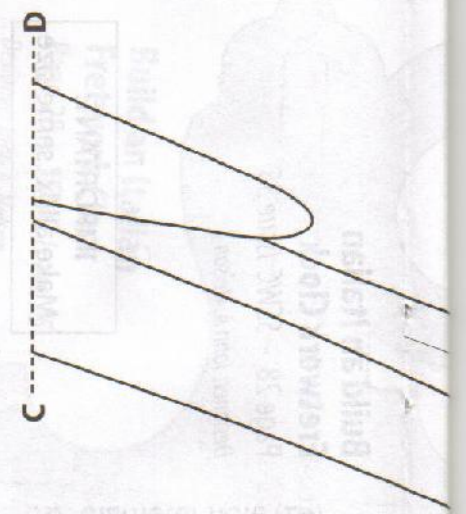
Same as material thickness

IMPORTANT:
Make all "x" same size

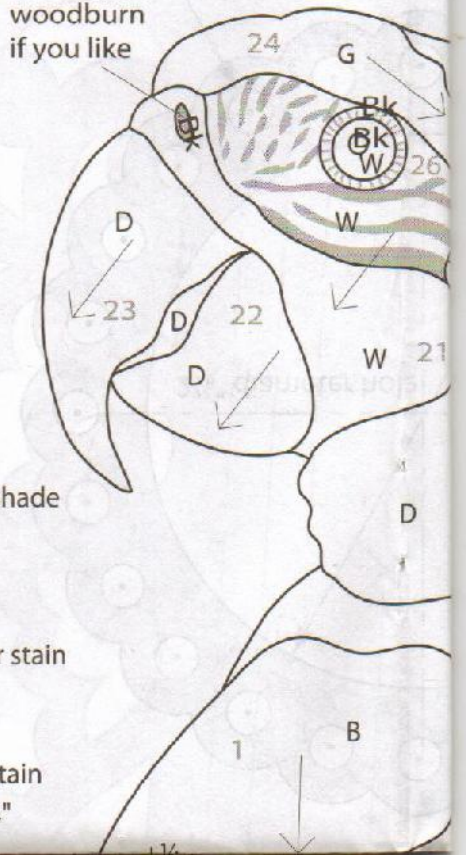
Drilling key

- A - $\frac{3}{32}$ " ($\frac{1}{4}$ " -diameter by $\frac{1}{4}$ "-deep (Rail
- B - $\frac{1}{8}$ "-diameter by $\frac{1}{4}$ "-deep (Shrouds)
- C - $1\frac{3}{64}$ " ($\frac{3}{16}$ " -diameter by $\frac{1}{4}$ "-deep (Jib
- D - $\frac{3}{4}$ "-diameter by 1"-deep (Masts)
- E - $\frac{5}{16}$ "-diameter by $\frac{1}{4}$ "-deep (Portholes)

Build an Italian Fretwork Clock
Page 28 - SSWC Issue 35
Designer: John A. Nelson



woodburn if you like

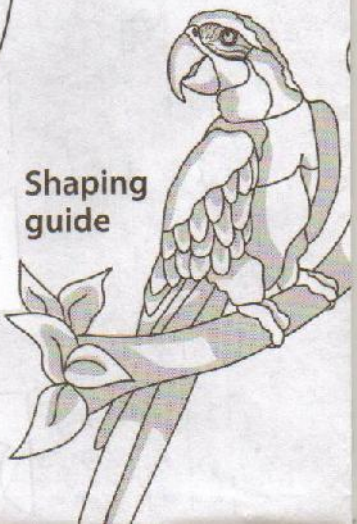
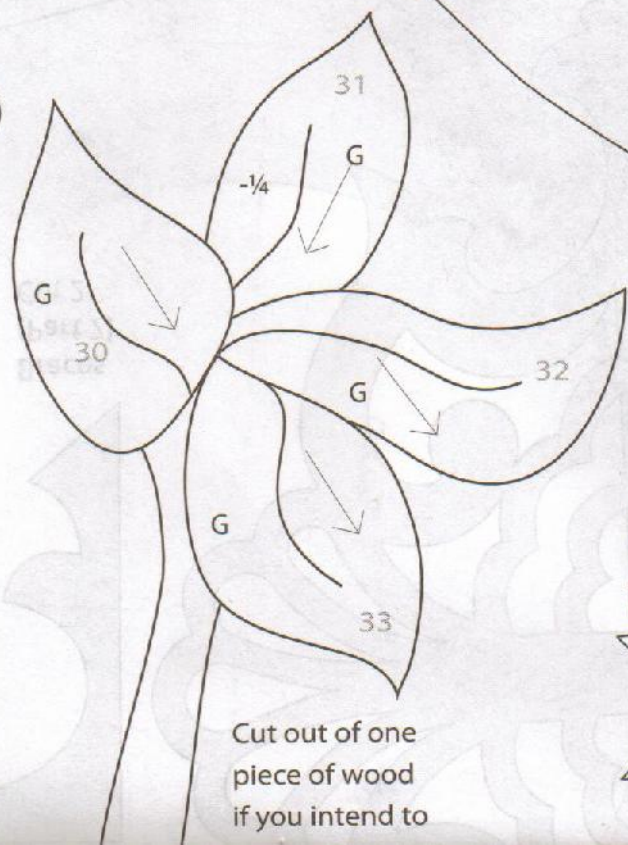
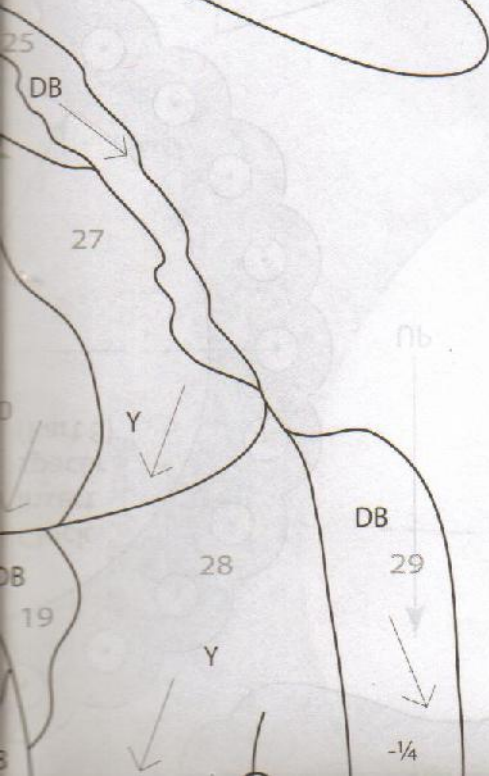
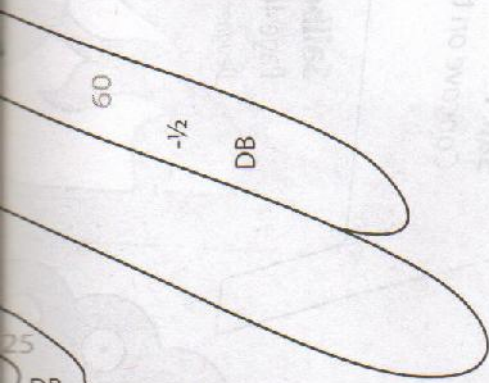
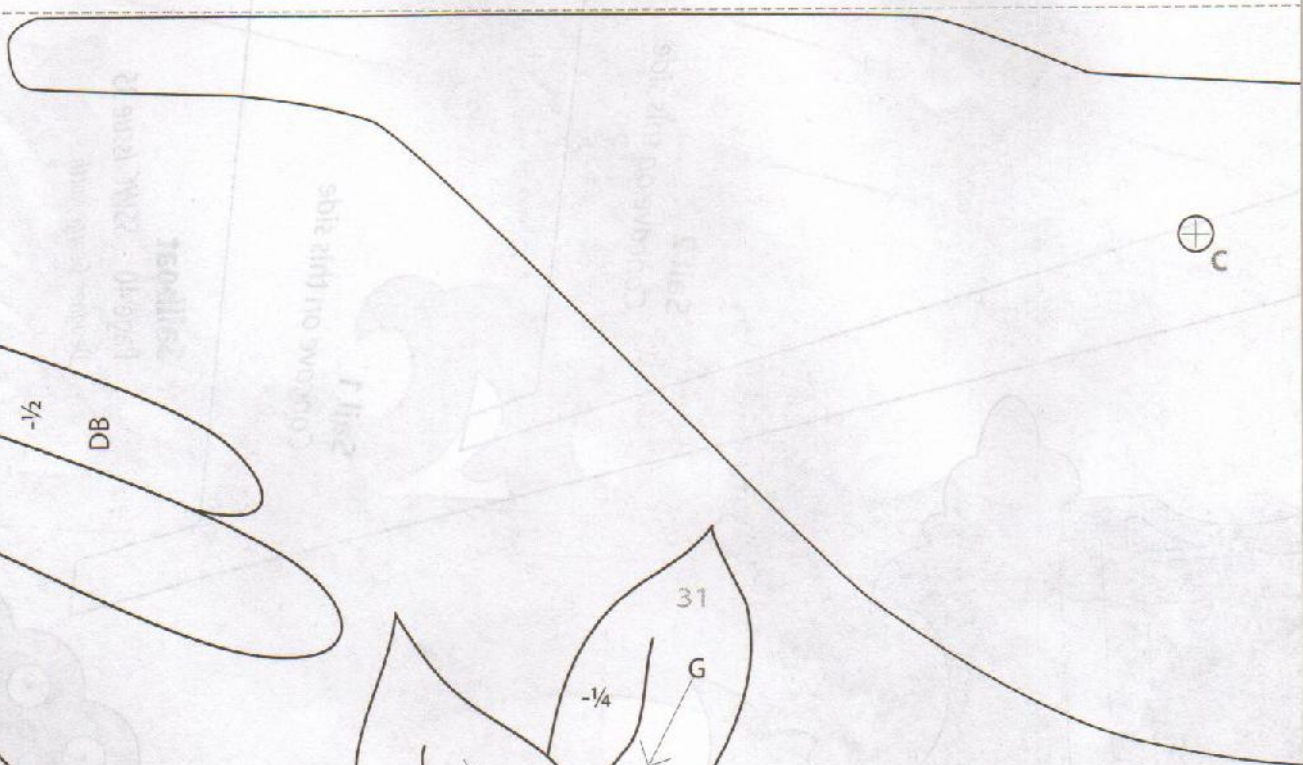
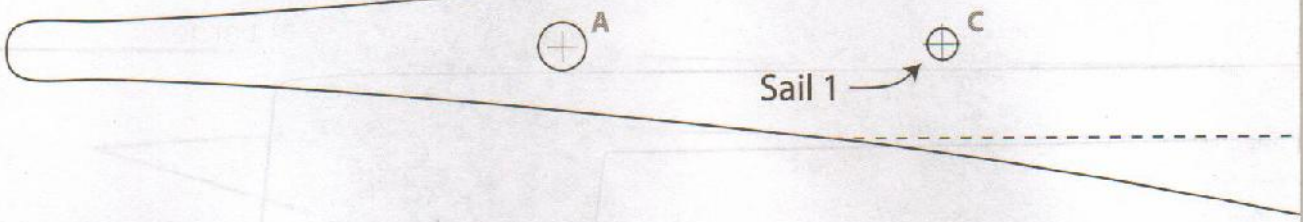


Legend

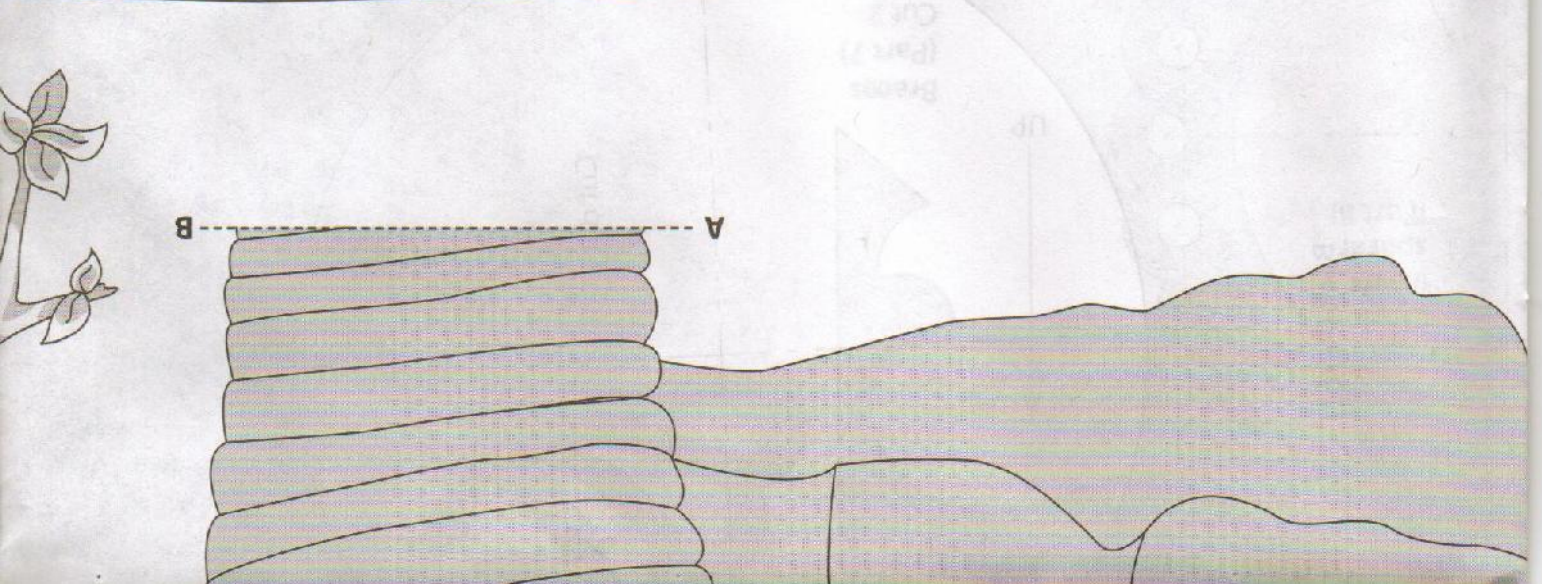
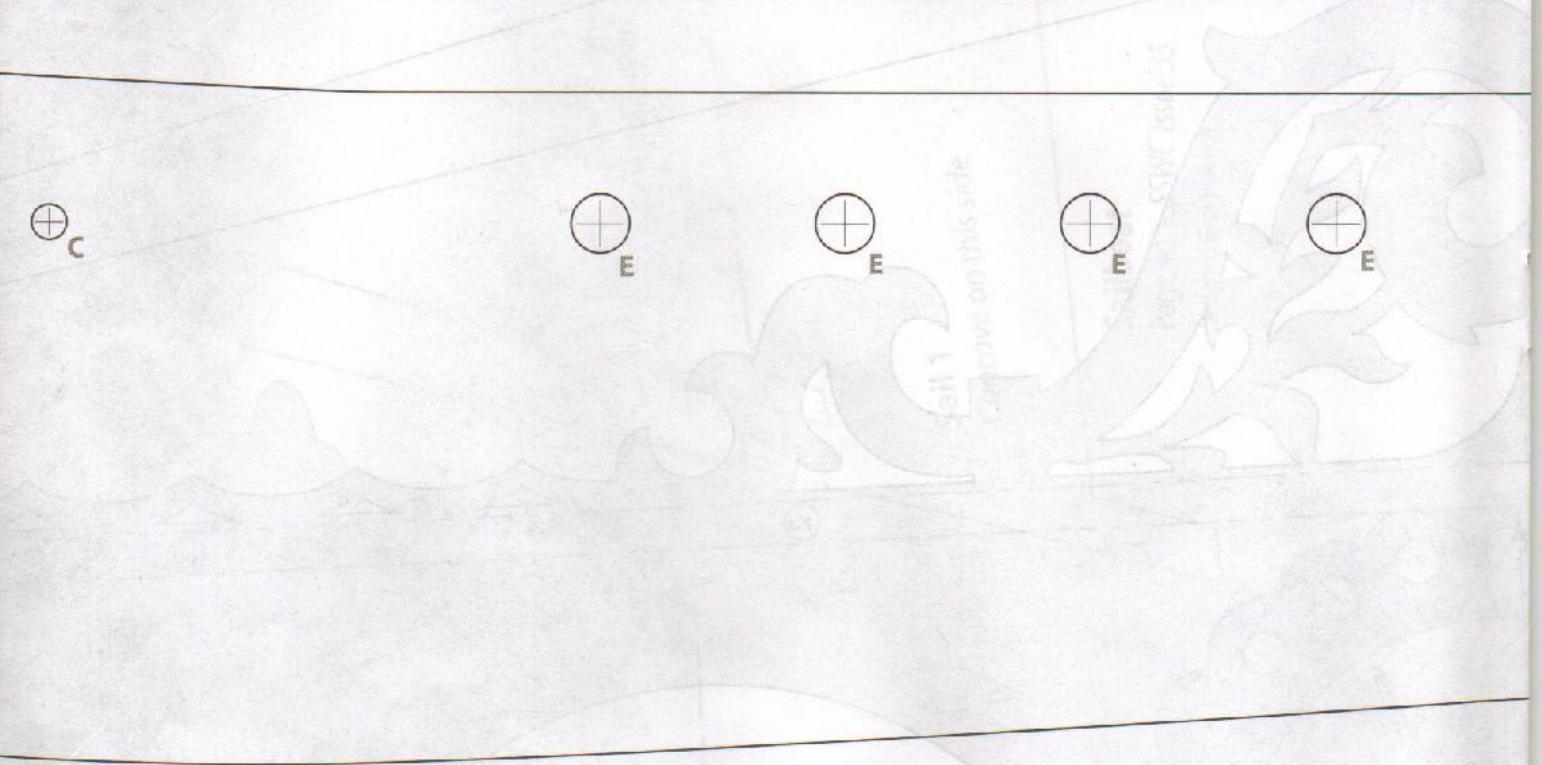
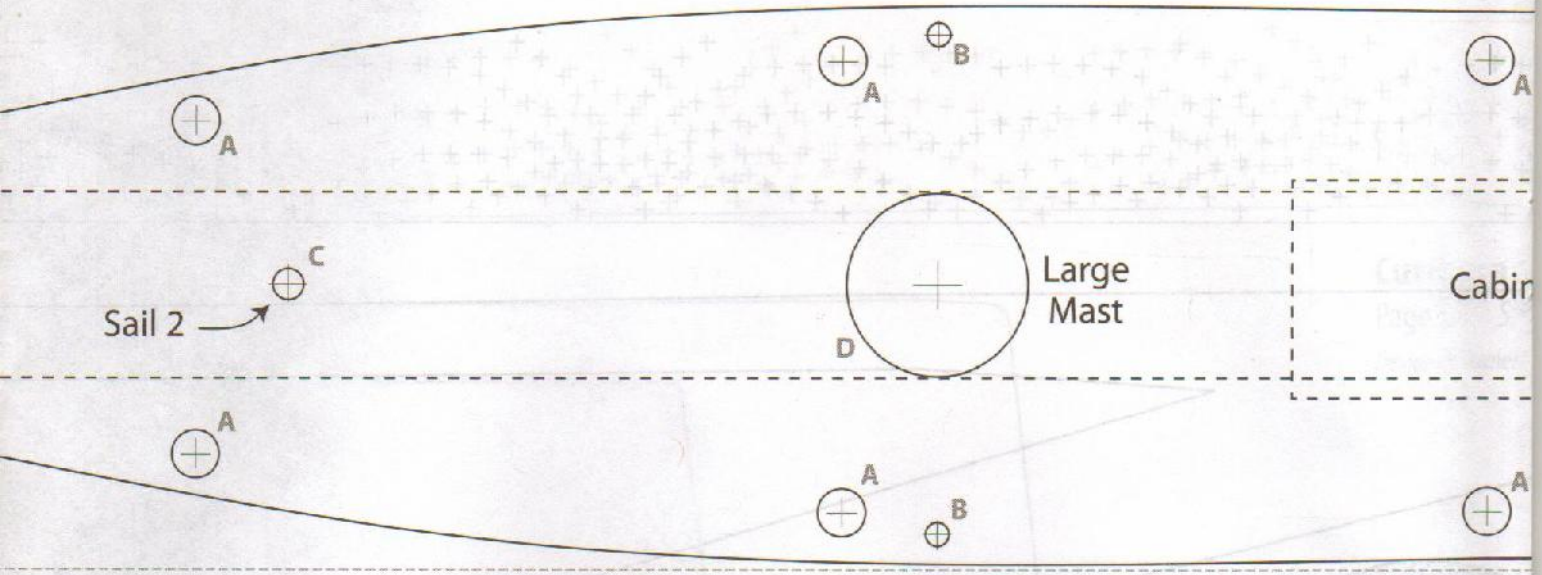
- Start with $\frac{3}{4}$ " or 1" wood
- ← Grain direction
- Bk.....Ebony / very darkest shade
- B.....Stain blue
- DB.....Stain dark blue
- G.....Green wood or stain
- MG.....Medium gray wood or stain
- Y.....Yellow wood or stain
- W.....White wood or stain
- D.....Dark brown wood or stain
- $\frac{1}{4}$Sand or plane down $\frac{1}{4}$ "
- $\frac{1}{2}$Use $\frac{1}{2}$ " thicker wood

ists)

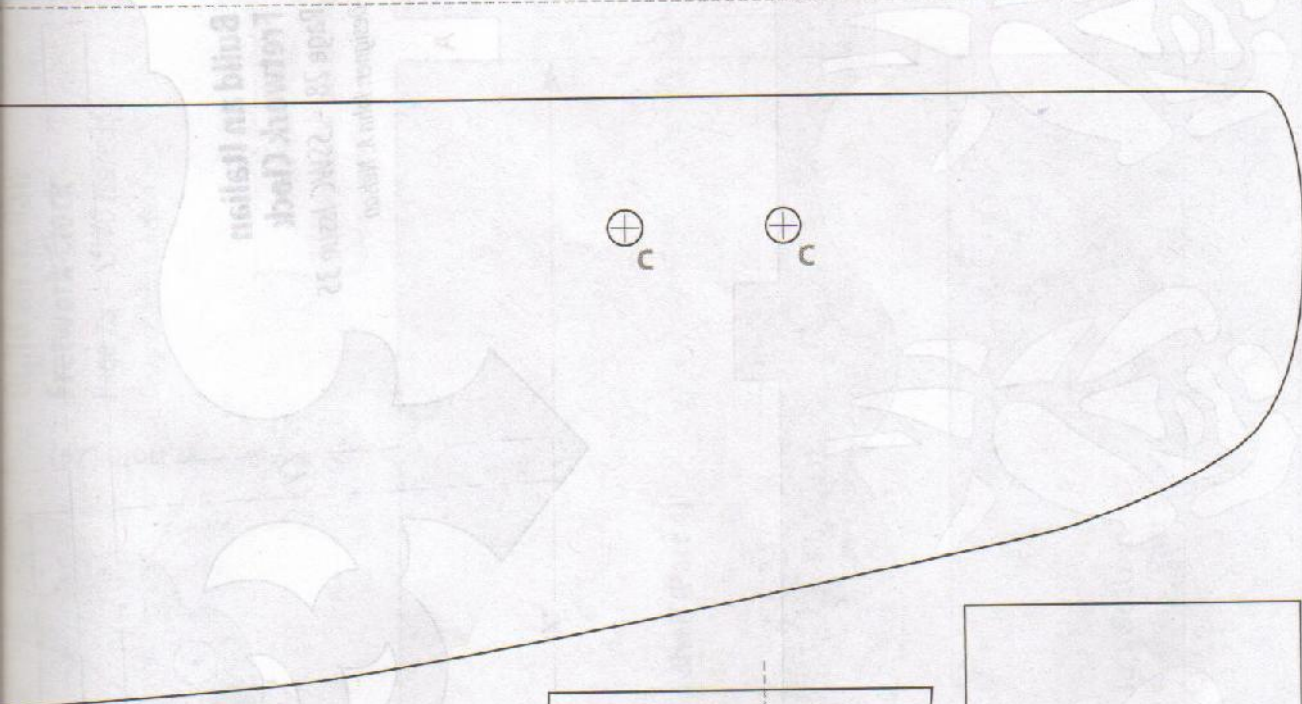
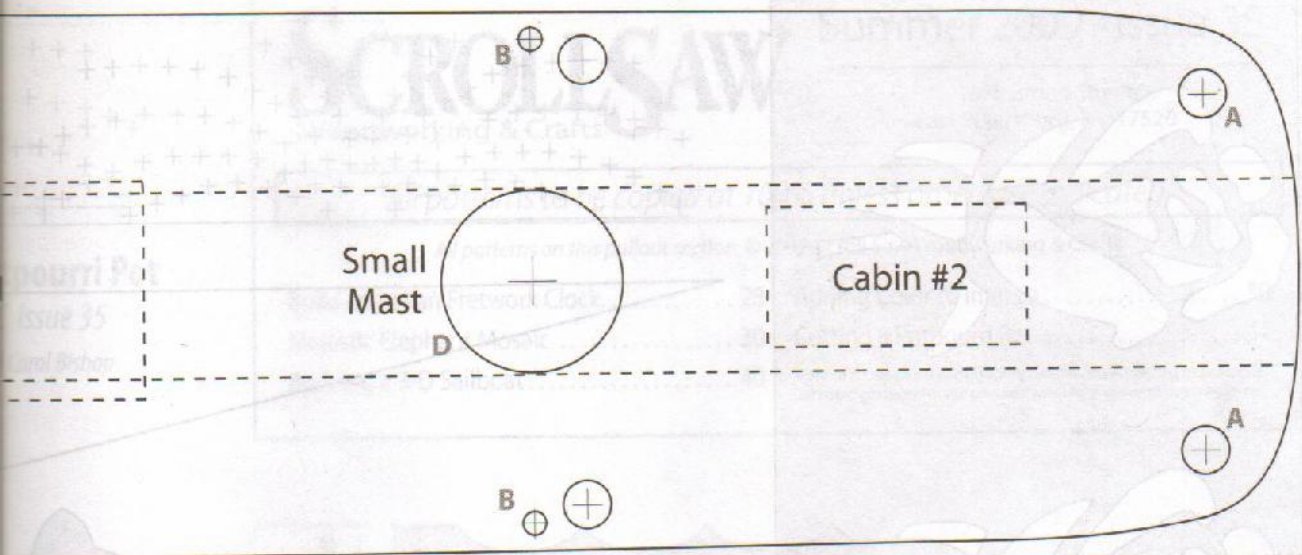
2 portholes)



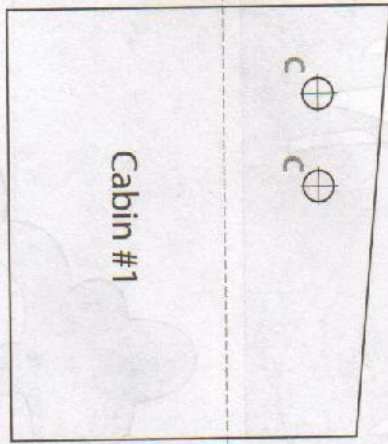
Cut out of one piece of wood if you intend to



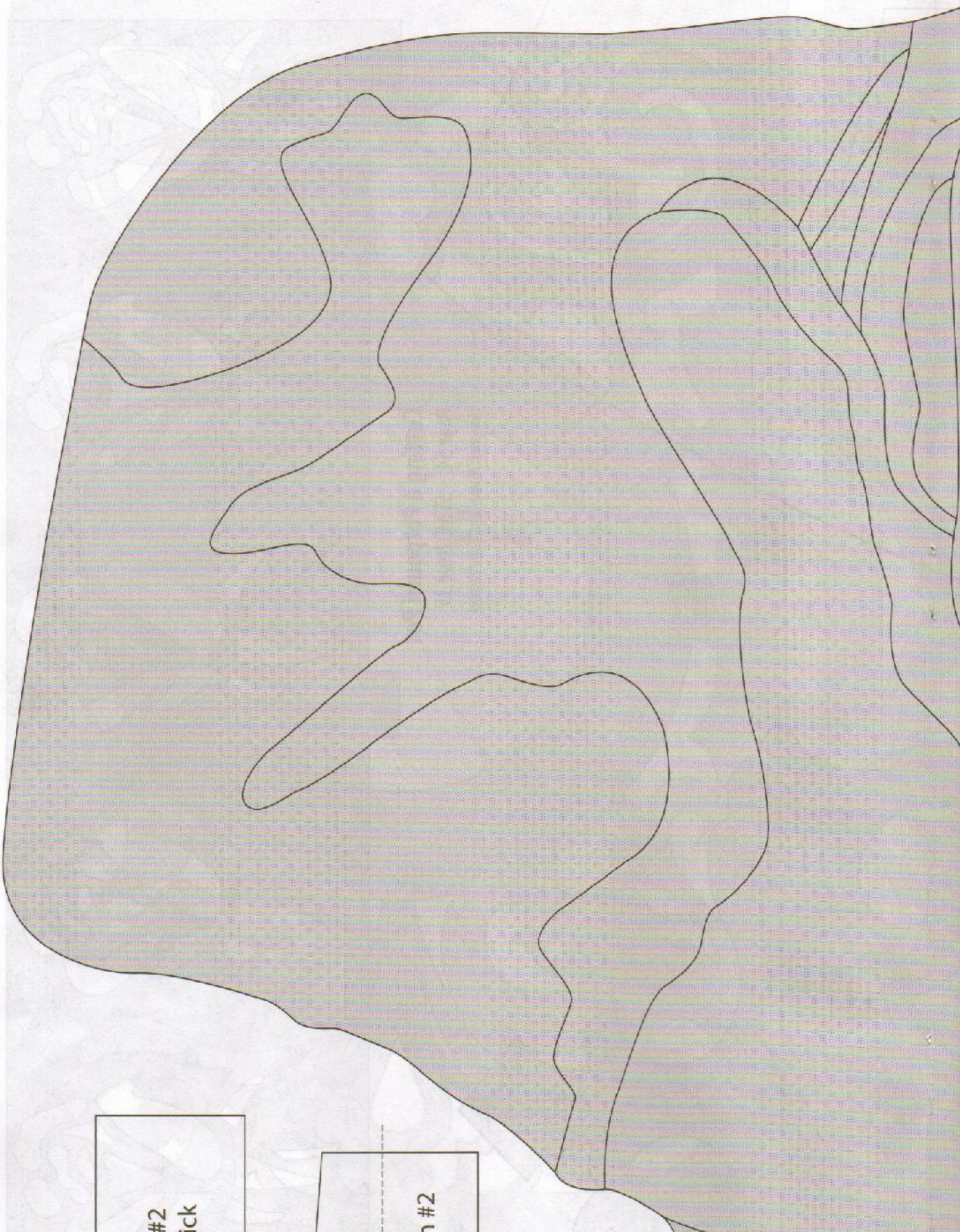
SCROLLSAW
Sawing and Crafts



**Building a
3-D Sailboat**
Page 40 - SSWC Issue 35
Designer: George North



Fold patterns
along dotted line



Roof #2
1/8" thick

⊕
⊕_c

Cabin #2

