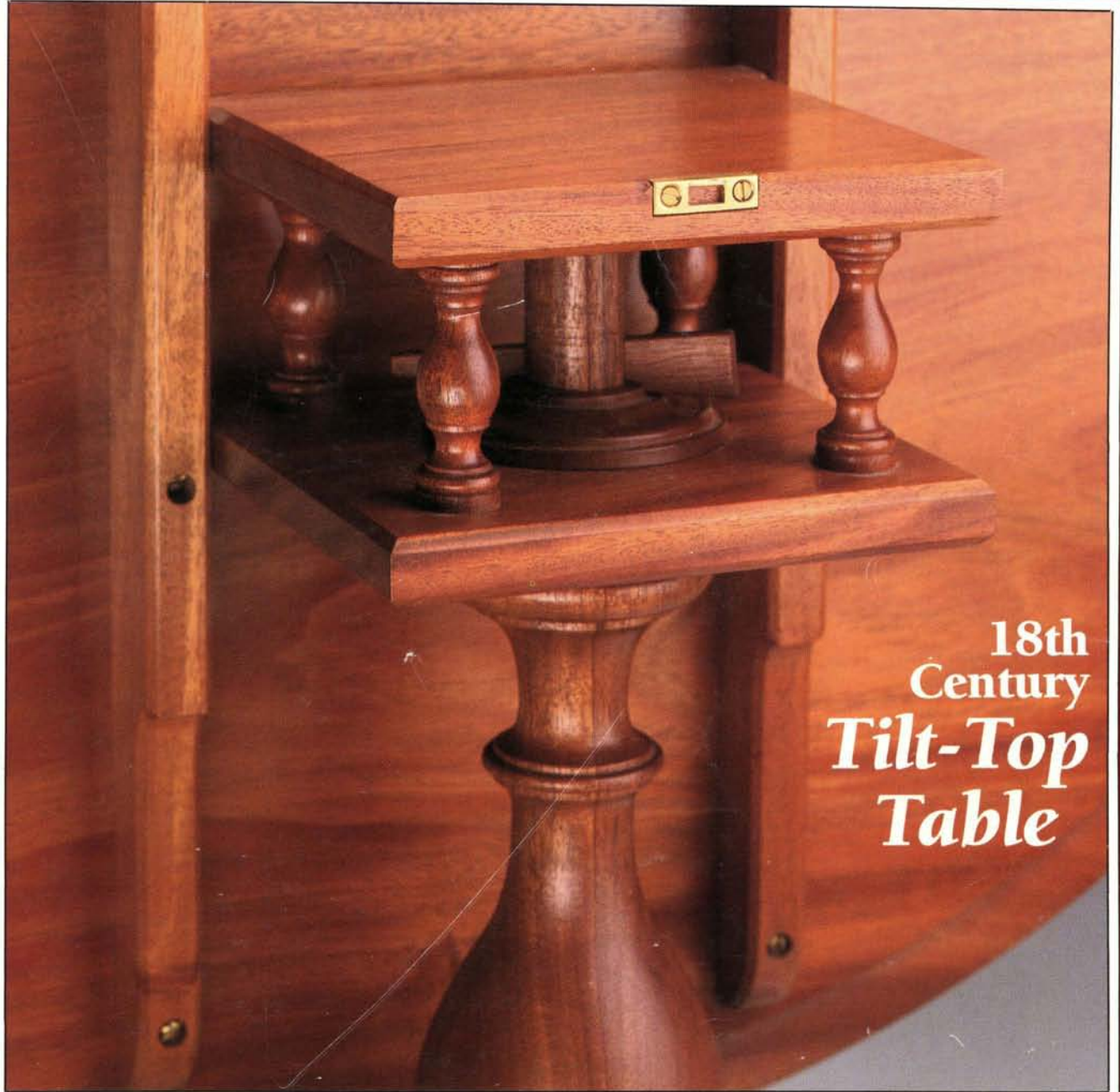


The Woodworker's Journal

Vol. 13, No. 2 \$3.50

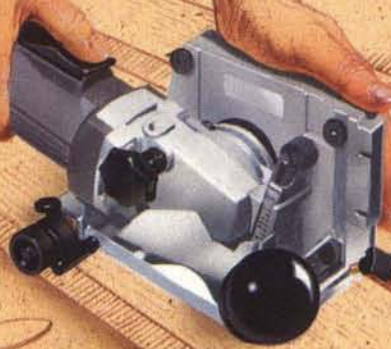


18th
Century
*Tilt-Top
Table*

Included in this issue: **Pine Armoire • Two Trivets • Birdhouse
Adirondack Settee • Toy Fishing Trawler
Oriental Mirror • Folk-Art Cow • Country Village**



March/April 1989



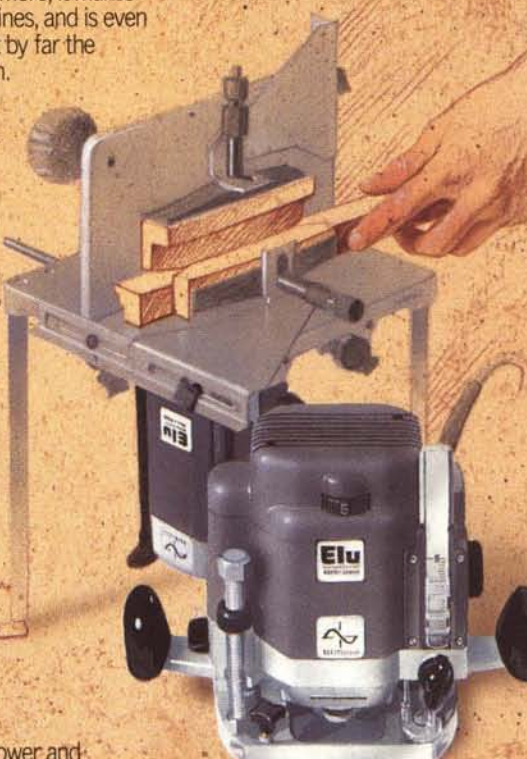
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The Woodworker's Journal

MARCH/APRIL 1989 VOLUME 13, NUMBER 2

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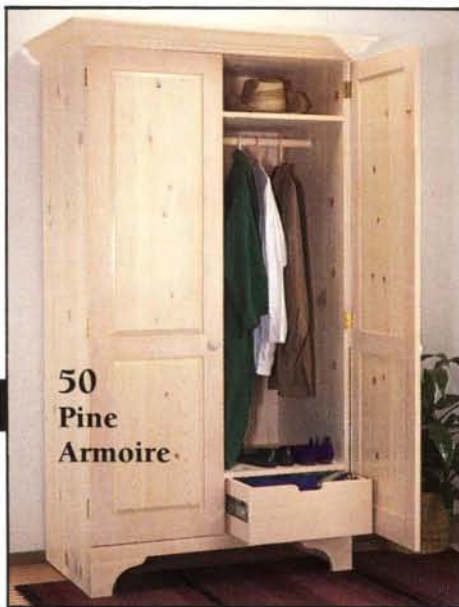
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30
Adirondack
Settee



Shoptalk

A few years back, we started getting an occasional letter requesting plans for an armoire or wardrobe. At first I couldn't understand why such a large piece of furniture would be needed in a modern home which usually has ample closet space. Long ago, when closets were either omitted or installed as afterthoughts, big portable storage cupboards, wardrobes or armoires were really necessary. I remember as a child, seeing one in an elderly aunt's apartment. Anyway, requests for plans continued to trickle in and despite my initial lack of enthusiasm, we had to seriously start thinking about building an armoire for a future issue.

The design parameters we set were that it had to be light, both in weight and appearance. Too many of the old armoires were gloomy Victorian behemoths of dark stained oak or mahogany. We chose pine for its light weight, economy and availability, and the white glaze finish is about as far removed from dark Victorian as you can get. Finally, the joinery had to be simple and straightforward without sacrificing strength.

After we built the armoire on page 50, it occurred to me that in addition to the popular use of these units as stereo and TV entertainment centers, they are perfect in a den for the safe storage of fishing rods and related tackle including boots and waders. Or how about stashing your rifles, shotguns, decoys and camouflage clothes? Then again, there's always the possibility of adding more shelves and us-

ing it as a pantry in a country kitchen. Obviously, I've had a change of heart regarding armoires. How did we get along without them all these years?

* * *

Traditionalists who enjoy a challenge will be interested in the fine reproduction of an 18th-Century Tilt-Top Table on page 36. This handsome piece was built by Paula Garbarino, a professional woodworker.

After having completed a 1½-year carpentry program at Boston's North Bennet Street School, Ms. Garbarino built custom cabinetry and commercial fixtures for some six years. She then returned to the same school and completed the two-year cabinet and furniture making program. At present, she's self-employed building custom period pieces and repairing antiques.

Although woodworking continues to remain a craft dominated by males, it's gratifying to see that the old sex barriers are disintegrating. Women have long been interested in furniture, first as decorators and then as designers, so it seems logical that they should also become more involved in the building of furniture.

Paula's work is first class, and her period pieces range from a 17th-century carved bible box to an oak mission-style bed. As in the past, we shall continue to bring to our readers the very best in traditional furniture designs by outstanding woodworkers like Paula Garbarino.

Jim McQuillan

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As you watch John build the Blanket Chest (shown) step-by-step, you'll learn all the handy techniques including the critical woodworking know-how of assembly. The knowledge you will gain will make woodworking fun and easy.

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(206) 647-0801



Letters

I enjoyed your article on the thickness planer in the January/February 1989 issue. Recently I purchased a Foley 12 in. thickness planer. I run a small shop and want to start planing stock for profit. I'll mostly be working with cypress and oak. Is there a common retail price for these woods?

Jewel N. Watts

Lumber prices vary throughout the country. Probably your best bet is to call a few local wholesalers and find out what the prices are in your area. Retail prices generally run about double the wholesale prices. Also, keep in mind that the grade of your lumber will affect the price considerably. For further information on oak grading standards, contact the National Hardwood Lumber Association, Box 34518, Memphis, TN 38184-0518. For cypress grading information write to the Southern Cypress Manufacturers Association, P.O. Box 5816, Jacksonville, FL 32207.

In the Readers' Information Exchange column of your January/February 1989 issue, reader F. Edward Gehringer told of problems he was having with band saw tires that had hardened with age and were "throwing" the blade.

I suspect that those tires are simply out of condition, which means they have become glazed and lost their resiliency. I suggest he pay a visit to any good-size print shop and see if he can get a pint or so of "rubber roll conditioner." I've used this clear solvent-type conditioner on my father's band saw and the tires are still in good shape — even after 58 years of hard use.

It's easy to do. First, remove the blade, then use a soft cloth to apply the conditioner to both tires. Work your way around each one until the glazed surface is removed. Check the rubber to see if the resiliency has returned. If the tire is still a bit hard, repeat the process. Allow the tires to stabilize for two or three days before installing the

blade. Repeating the procedure every couple of years will keep them in good condition.

Monroe J. Mechling
Steubenville, Ohio

Recently, I needed to set up shop in a hurry and did not have time to fabricate glued-up panels for a workbench and other important shop surfaces such as outfeed and extension tables for the table saw. To save time making them, I used a solid-core door for the workbench top and hollow-core doors for the outfeed and extension tables. I glued 2 by 4's to the underside edges around the perimeter of each door and then attached legs made from 4 by 4 cedar. The legs were supported at a point 16 in. from the floor by stretchers made from 2 by 4 stock.

Those doors made it possible for me to set up shop in just a few days while keeping costs to a minimum.

Warren G. Williams, Tulsa, Okla.

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G1028/G1029

G1030

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- MODEL G1029:** Features 2 bags, 2 H.P. motor that draws 10 amps at 110V and 20 amps at 220V, 1182 ft.³ min., base measures 20" x 35", two 4" intake holes. Weighs 210 lbs. **ONLY \$295⁰⁰** F.O.B. Bellingham, WA or Williamsport, PA
- MODEL G1030:** Features 4 bags, 3 H.P. single phase motor that draws 18 amps at 220V or 36 amps at 110V, 1883 ft.³ min., three 4" intake holes, base measures 21" x 46". Weighs 270 lbs. **ONLY \$410⁰⁰** F.O.B. Bellingham, WA or Williamsport, PA

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88-160A

Do you know of a source for threaded dowel stock?

R.A. Cook, Houston, Tex.

You can order threaded dowel stock in 12 in. lengths from Cherry Tree Toys, P.O. Box 369, Belmont, OH 43718. Three sizes are sold: 3/8 in., 1/2 in., and 3/4 in. They also sell a round nut for each size.

The 18th-Century Pencil Post Bed and matching table featured in your September/October 1988 issue proved to be satisfying and enjoyable projects, with lots of handwork using the plane and chisel. The result is a pair of heirloom pieces. However, for those who feel that the \$88.50 hardware cost is beyond their budget, there is a much cheaper alternative. The 6 in. bolts can be cut from lengths of 3/4 in. threaded steel rod which are sold at hardware stores for a few dollars. Bed bolt covers (1 3/4 in. diameter solid brass with an antique finish) are available from

the mail-order company, Constantine, 2050 Eastchester Rd., Bronx, NY 10461, for \$1.35 each plus \$3.50 shipping. And angle iron of sufficient strength is commercially available. All totaled, the cost will be around \$20.

Fred C. Humphrey, Riverside, Conn.

I would like to make some wooden clipboards but don't know where to get the metal clips.

E.A. Wooster, Philadelphia, Penn.

Meisel Hardware Specialties, P.O. Box 70, Mound, MN 55364-0070, sells both steel and brass plated clips. The steel clips come in 3 in. and 6 in. lengths. The brass plated ones are available in 2 3/4 in. and 4 3/8 in. lengths.

I must confess a love for the Shaker-style, and I own nearly all the available books on Shaker furniture. So far I have made several of the Shaker projects featured in your magazine: the Blanket Chest (Jan/Feb 1987), the Hall Table (Mar/Apr 1987), and the

Wall Clock (Jan/Feb 1988). My next project is going to be the Wall Cabinet (Jan/Feb 1989), and then as soon as I can get enough quality cherry, the High Chest (Nov/Dec 1988).

Please keep including Shaker projects in each issue.

Brian Rice
Glens Falls, N.Y.

I need some thin solid-brass sheet stock to make some hinges for a project. I can't find it locally. Can you provide a mail-order source?

Larry Adams, Atlanta, Ga.

The Christian J. Hummel Co., 404 Brookletts Ave., P.O. Box 1849, Easton, MD 21601, sells solid-brass in 4 in. by 10 in. sheets. Three thicknesses are available: .005 in., .010 in., and .032 in. They also carry .025 thick solid copper sheet, 1/16 in. to 1/4 in. diameter round brass tubing, 1/16 in., 3/32 in., and 1/8 in. square brass tubing, and .020 to 3/16 in. diameter solid-brass rods. 

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Readers' Information Exchange

Looking for an owner's manual for an old band saw? Need a bearing for a hand-me-down table saw? Can't find a source of supply for an odd piece of hardware? Maybe our readers can help. Send along your request and we'll try to list it here — and perhaps one of our readers will have an answer for you. Due to space limitations, we'll be unable to list all requests, but we'll include as many as we can.

I am trying to find a supplier for "French Red Liquid" stain wood filler. Old label says the St. Hubert Co., P.O. Box 169, Waseeca, MN 56093.

Lester Witzel
100 George Court
Winchester, KY 49391

I would like to secure a router lathe previously sold by Sears.

J.N. Hileman
P.O. Box 28, Irmo, SC 29063

I am looking for a Stanley Model 77 dowel maker with either six or eight different size dowel cutters.

Dale B. Heberlig
Star Rt. 2 Box 118
Shippensburg, PA 17257

I have a Cummins Do-It jigsaw, series 7596, model 441, and I am having difficulty finding blades for it. I believe the saw requires a 5 in. pin-end blade.

Lewis J. Soldano
1834 Heckscher Ave.
Bay Shore, NY 11706

I need a Dumore Carvit, model 8067, manufactured by the Dumore Co. of Racine, Wis. Please indicate your asking price.

Stacy E. Dolby, Jr.
1113 S. 5th St., De Kalb, IL 60115

I have a Craftsman floor model saw, model no. 103.27270. I have the original operating instructions and parts list for this saw (13 pages) and will copy and mail them to anyone for the postage and copy costs.

Jack Rager
3064 So. Dorchester Rd.
Columbus, OH 43221

I would appreciate the following: instructions and carbon brushes for small transformer band saw blade welder. Also, tires for a Delta Homecraft 10 in. band saw.

John K. Nagle
738 Philadelphia Ave.
Reading, PA 19607

I would like a source for tires for a band saw. It is a Walker-Turner, model no. 19.639. It has 14 in. diameter wheels 1 1/4 in. wide.

James Conway
2160 Unruh St.
Philadelphia, PA 19149

Does anyone know where I can get a drive belt for a ToolKraft table saw formerly manufactured by Motor Tools, Plainfield, Mass.?

Thomas Strittmatter
RD 2 Box 40
Indiana, PA 15701

Owner's Manuals and Parts Lists

- | | |
|--|--|
| Craftsman 10 in. table saw, model no. 113.27521 | G. William LeWorthy
540 Lakewood Dr., Lincoln, NE 68510 |
| Craftsman jigsaw, model no. 103.23440 | Raymond L. Norris
114 E-Canal, Troy, OH 45373 |
| Craftsman 8 in. table saw, model no. 103.22161 | Wilson Ayers
8107 Kenwood Drive, Norfolk, VA 23518 |
| Craftsman 24 in. wood lathe, model no. 103.21600 | Mike Gadiant
1307 Kirkwood Blvd., Davenport, IA 52803 |
| Craftsman radial arm saw, model no. 113.29501 | Harlan J. Kind
802 S. Main St., Copperas Cove, TX 76522 |
| Craftsman radial arm saw, model no. 113.19930 | Jerry T. Dickinson
Rt. 1, Box 26, Marietta, PA 17547 |
| Craftsman jigsaw, model no. 103.23151 | James Conway
2160 Unruh St., Philadelphia, PA 19149 |



Events

We will gladly list as many events of interest to woodworkers as space permits. Listings are free and may include shows, fairs, competitions, workshops and demonstrations. The deadline is six weeks before publication, March 15 for the May/June issue. Please address announcements to the Events Department.

California:

The Woodworking Show — Northern California, Santa Clara Convention Center, March 31-April 2.

Connecticut:

Brookfield Craft Center, P.O. Box 122, 286 Whisconier Road, Brookfield: 18th-Century Joinery Techniques, March 4-5; Surface Design and Techniques for the Woodworker, March 11-12; Wood Finishing Techniques, March 18-19.

The Woodworking Show — Connecticut, Hartford Civic Center, April 21-23.

Florida:

The Woodworking Show — South Florida, Miami Convention Center, March 3-5.

Georgia:

The Woodworking Show — Atlanta, Lakewood Fairgrounds, April 14-16.

Illinois:

The Woodworking Show — Chicagoland, Odeum, Villa Park, April 28-30.

Iowa:

Iowa State Woodcarvers Show — '89, Waterloo Arts and Recreation Center, 225 Cedar St., Waterloo, April 22-23.

Massachusetts:

Woodworking World — The Boston Show, Bayside Expo Center, April 28-30.

Minnesota:

The Minnesota Wood Carvers Association 24th Annual Show, Apache Plaza Mall, St. Anthony, April 2-3.

Montana:

Annual Festival of Arts and Industry, Western Montana College, Dillon, April 28-29.

New Hampshire:

The Joiner's Shop, Lebanon, N.H., An Introduction to Architectural Woodworking, March 18.

New Jersey:

Crafts of New Jersey Tool Auction, Holiday Inn, Clinton, April 1.

March/April 1989

New York:

Constantine's Woodworking Classes, 2050 Eastchester Rd., Bronx: Intermediate Woodcarving, March 4, 8; Wood Finishing, March 18; Trade Show, April 1; Woodturning, April 8; Marquetry, April 5; Sharpening, April 22; Picture Framing, April 19; Chair Caning, April 22.

Woodworking World — The Buffalo Show, Erie County Fairgrounds, Hamburg, April 7-9.

Ohio:

Woodworking World — The Toledo Show, Seagate Center, April 14-16.

Pennsylvania:

Pennsylvania Guild of Craftsmen, P.O. Box 820, Richboro, PA 18954: Japanese Woodworking, April 29-30.

Tennessee:

The Woodworking Shows — Tennessee, Nashville Convention Center, April 7-9.

Arrowmont School of Arts and Crafts, Box 567, Gatlinburg: Hollow Vessel Turning, March 13-17; Turning Tools and Techniques, March 20-24.

Texas:

Woodworking World — The Houston Show, Pasadena Convention Center, Pasadena, March 3-5.

Vermont:

Vermont State Craft Center at Frog Hollow, Middlebury, Shaker Basketmaking, March 18-19.

Virginia:

The Woodworking Shows — Metro-Richmond, Richmond Center, March 10-12.

Washington DC:

Smithsonian Institution, Washington Craft Show, Departmental Auditorium, Constitution Ave. N.W., April 20-23.

Washington Woodworkers Guild, 1215 N. Ft. Myer Dr., Arlington, Va.: "Maximizing Quality and Profit for Your Woodworking," April 29.

Canada:

The Quinte Wood Show, Bleecker Auditorium, Belleville, Ont., April 28-30.

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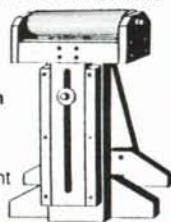
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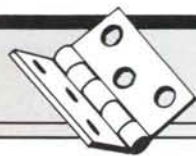
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Cabinetmakers' Supplies

Schools and Craft Centers

As a service to our readers, *The Woodworker's Journal* periodically lists sources for various woodworking supplies. This issue we are listing a few of the many instructional programs available to woodworkers. As each school has a variety of short and long-term programs available, ranging from one-day seminars to full undergraduate and graduate degree programs, we suggest that readers write for information on the areas of interest to them.

Schools Offering Degrees & Apprentices Programs

Arizona State University
Tempe, AZ 85287-1505
(602) 965-3468
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Schoonmaker Point
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(415) 331-8520
Lynn Learned, Executive Director

Canadian School of Woodturning
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Bert Thompson, Woodturning Instructor

College of the Redwoods
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Fort Bragg, CA 95437
(704) 964-7056
James Krenov

Conestoga College of Applied Arts and Technology
Ontario Woodworking Centre
299 Doon Valley Drive
Kitchener, ON N2G 4M4 Canada
(519) 653-2511
Jim Sawicki

Georgian College
One Georgian Drive
Barrie, ON L4M 3X9 Canada
(705) 728-1951, Ext. 368
Eric Waugh

North Bennet Street School
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College of Fine and Applied Arts
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Wendle Castle School
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Rochester, NY 14623
(716) 889-1521

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Michael Lennon/Bruce Scotten

Virginia Commonwealth University
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Richmond, VA 23284
(804) 367-1477
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Glenn R. Docherty, Vice President

Anderson Ranch Arts Center
Snowmass Village, CO 81615
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Arrowmont School of Arts and Crafts
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Sandra Blain, Director

Augusta Heritage Arts Workshops
Augusta Heritage Center
Davis & Elkins College
Elkins, WV 26241
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Doug Hill

Boston Center for Adult Education
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Boston, MA 02116
(617) 267-4430

Brookfield Craft Center
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Brookfield, CT 06804
(203) 775-4526

Country Workshops
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Marshall, NC 28753
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Craft Students League
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New York, NY 10022
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Ken Coleman

Debey Zito Fine Furniture Making
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San Francisco, CA 94110
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Russ Zimmerman's House of Woodturning
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(802) 387-4337
Russ Zimmerman

The Wood Carving School
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Mr. Chris Effrem

Vermont State Craft Center at Frog Hollow
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Doreen Congdon

Vesterheim, Norwegian-American Museum Woodworking Seminars
502 West Water St.
Decorah, IA 52101
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Cindy Johnson, Administrative Assistant

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College Courses and Woodworking Classes

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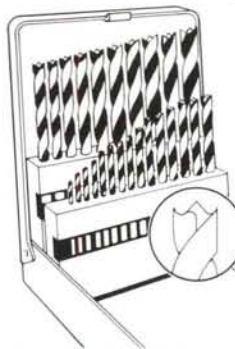
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Product News

To keep our readers up-to-date, we use this column to feature brief descriptions of new tools and supplies on the market. The product descriptions are provided by the manufacturer and are not a result of tests or reviews by the editors of The Woodworker's Journal.



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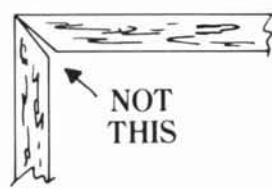
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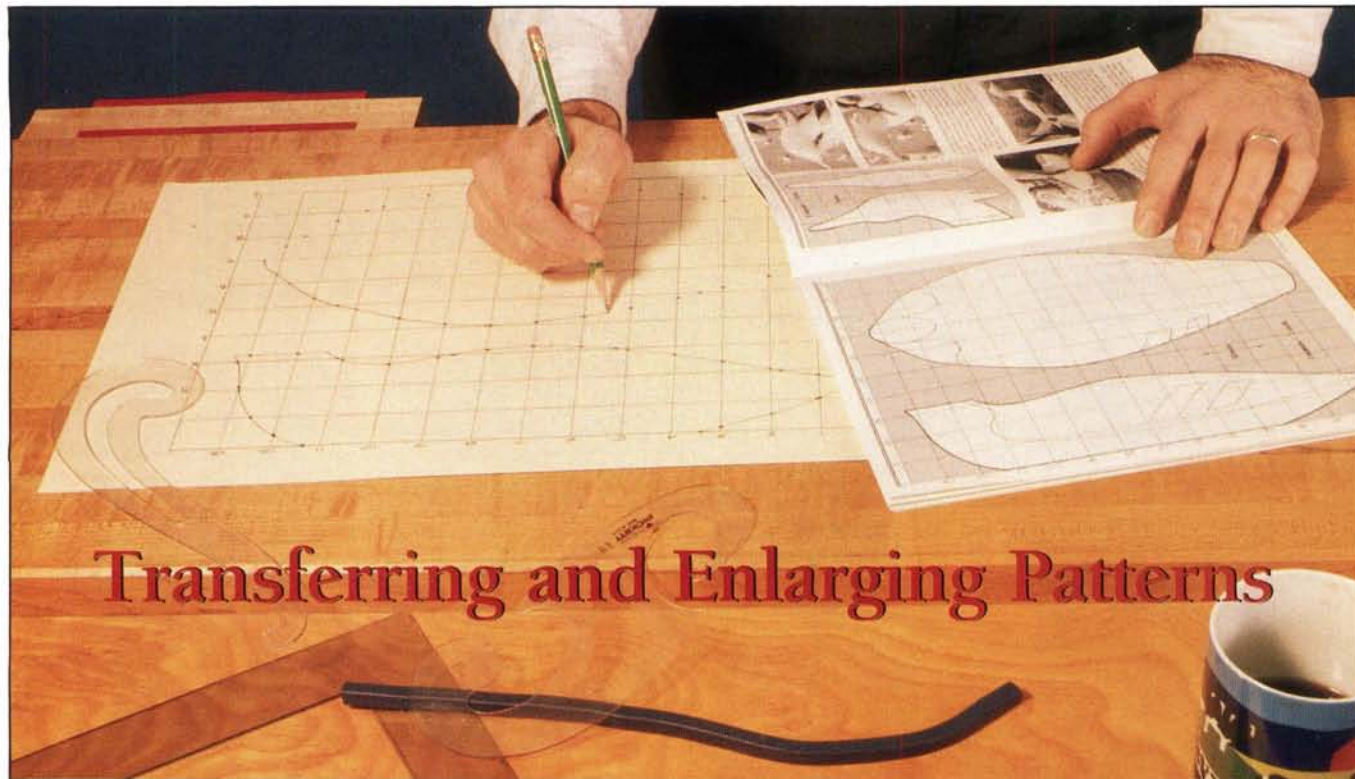
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Woodworking Basics



Transferring and Enlarging Patterns

Taking a drawing or pattern from the page to life-size is the first step in many woodworking projects. Although it's a fairly simple process, it can confuse the beginning woodworker because most books and articles assume you already know how to enlarge patterns. But like anything else, there are specific steps to follow for a consistent result.

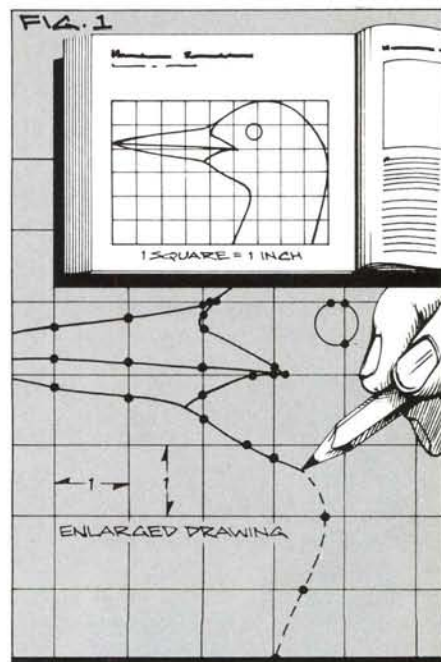
The most common system now in use for enlarging patterns relies on a grid pattern, which is superimposed on a drawing. The drawing and grid are the same scale, so that when you create a larger empty grid, the lines of the drawing can be transferred to the lines of the enlarged grid. The process is as simple as connecting a string of dots. Wherever a grid line intersects with a line in the drawing, you pencil in a dot *on the full-size* pattern. You then just form smooth lines that conform to the dot pattern and match the original.

If you're working from a plan in a magazine or book, the profiles usually have grid patterns with a note saying one square equals $\frac{1}{2}$ in., 1 in., 2 in. or whatever. That means that when you lay out the full-size pattern, you create a grid with squares of the specified size.

To begin, lay out the grid large enough to hold the full-size drawing. Use the distance between lines specified in the drawing: $\frac{1}{2}$, 1 or 2 in. You should use a labeling system for the horizontal and vertical lines. It doesn't matter much what labeling system you use as long as you use one. For example, label the vertical lines with numbers and the horizontal lines with letters. Label both the original and full-size pattern. If you don't use a system, you'll find yourself counting the number of squares to each dot location, wasting a lot of time.

On the completed grid, locate dots wherever the drawing profile on the original crosses a grid line (Fig. 1). Note that you only need to lay out half of a symmetrical pattern. You can fold the paper, draw half the profile, cut along the pencil line and then open it up for the full profile. Or you can just cut out half the pattern and draw the halves separately on the workpiece.

To connect the dots, it's best to first lightly sketch in the curves freehand. Then use a french curve or compass to match each section and go over it again. If you can easily sketch an even flowing line, then you may not need to use any layout tools. If you do find you

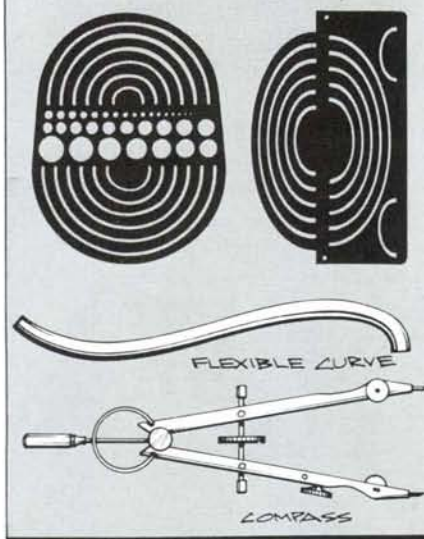


need the help, there are many devices to help draw straight and curved lines. They include the french curve, which comes in many sizes and shapes (Fig. 2), along with a variety of ellipse and circle templates, the flexible curve, and the compass (Fig. 3). The tools are available at good stationery stores.

FIG. 2 ASSORTMENT OF FRENCH CURVE TEMPLATES



FIG. 3 CIRCLE AND ELLIPSE TEMPLATES



After transferring the design to paper, you need some way to apply it to the stock. The simplest method is probably carbon paper. All you need to do is place the pattern and carbon paper over the stock and go over the lines with a pencil. You can also use heavy paper or cardboard for your pattern, and then cut it out with scissors, creating a reusable template. But if you plan on regularly reusing the template, it's best to make a permanent one from hardboard or $\frac{1}{4}$ in. plywood. If you make the plywood template, you can start with paper or draw the grid directly onto the plywood. The plywood or hardboard also serves as an intermediate step in transferring the profiles and allows you to refine and smooth the curves with files and sandpaper, a procedure usually called fairing.

Note that when cutting out the template with a band saw or jigsaw, you should always stay away from the line. That way you can sand and file up

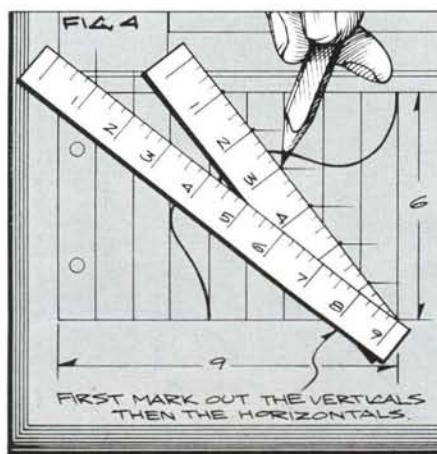
to the line. Use the same principle when cutting the actual stock. Never cut right on the line for profile work.

You can even enlarge profiles using the grid pattern system if the original doesn't have a grid superimposed on it. If the scale is $\frac{1}{4}$ (or 25 percent), draw in $\frac{1}{4}$ in. squares on the original and 1 in. squares on the full-size grid. If the scale is $\frac{1}{8}$, draw in $\frac{1}{4}$ in. squares on the original and 2 in. squares on the pattern.

In practice, however, the grid system isn't that simple. Most magazine and book illustrations are drawn to scale, but are then further reduced to fit on the page. A scaled drawing 50 percent of full-size may end up something like 8 or 12 percent on the magazine page. They're almost always an odd-size reduction of the original scaled drawing.

To overcome the lack of a known scale, you can use the ruler as a kind of portable scale calculator. By adjusting the angle of a ruler, the inch marks serve to divide lines into any desired number of equal divisions. If you know the final size of an object, you can transfer that size — in equal squares — onto the surface of a drawing. Those squares then represent full-size squares on your pattern.

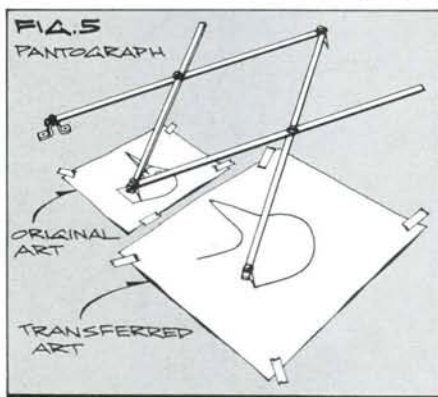
It works like this: first draw small squares over the original drawing. The



number of squares you draw will be equal to the number of inches of the part you want to duplicate. For example, if you're duplicating the profile of a bracket foot (Fig. 4) that's 9 in. by 6 in., you'll need to divide the space equally into nine horizontal squares and six vertical squares. The ruler

makes that division easier. You adjust the angle of the ruler until you can draw the right number of parallel lines through the original that correspond to the inch marks on the ruler. If there's a lot of detail, however, you can use a $\frac{1}{2}$ in. grid pattern instead of a 1 in. pattern. Just find how many half inches there are in the original full-size piece, and draw that many squares on the original drawing.

Another easy way to enlarge pat-



terns is to use a pantograph (Fig. 5). With pantographs you follow a profile line with one pointer, while a second inked pointer transfers the enlarged version onto the paper. You set the pantograph for the desired percentage enlargement and follow the contour of the original. You may want to consider buying a pantograph if you frequently work from drawings.

Another enlargement method springs from the recent explosive growth in the number of photocopiers. Many of the machines now come with enlargement and reduction capacity. The enlargements are gauged in percentages on the copiers, so to make a full-size template from a $\frac{1}{4}$ scale drawing, you need to transfer the scale into percentages. That, however, can be difficult as most copiers only enlarge to about $1\frac{1}{2}$ times the original. That means you'll often need to enlarge the drawing two, three or even four times. But most copiers don't enlarge or reduce to accurate percentages, so you'll need to fuss with the settings until you get the desired size. You may find yourself with a lot of scrap paper before you reach the right size.

Once you get the correct size enlargement, you can transfer it to the stock the same way as with ordinary paper.



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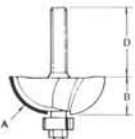
PART NO.	D	PRICE
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804	1/2	\$7
* 804-1/2	1/2	\$7
806	9/16	\$8
810	3/4	\$9
* 810-1/2	3/4	\$9
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* S8020 1/2	5/8	\$10

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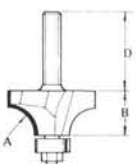
SY1402

SY35

SY29

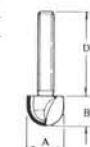
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Roundover



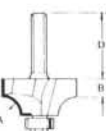
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S506Y	3/16R	\$11
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S510Y	5/16R	\$12
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* Indicates 1/2" shank.

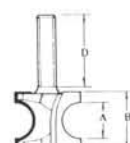
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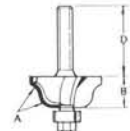
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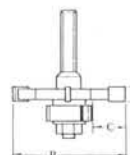
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* SY9-1 1/2	1/4	\$14
SY9-3	3/8	\$15
* SY9-3 1/2	3/8	\$15
SY9-4	1/2	\$15
* SY9-4 1/2	1/2	\$15
SY9-5	5/8	\$16
* SY9-5 1/2	5/8	\$16
SY9-6	3/4	\$16
* SY9-6 1/2	3/4	\$16
* SY9-8 1/2	1	\$18
* SY9-9 1/2	1-1/8	\$30
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Special Techniques



Making Tripod Legs

Slotted dovetail is used to join legs to pedestal

One of the more fascinating elements of traditional furniture design is the use of dovetails to join shaped table legs to a turned central pedestal. The result is a joint that, when carefully cut and fit, is exceptionally strong.

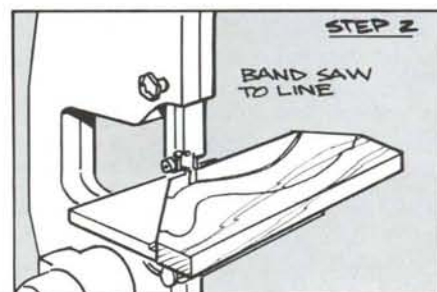
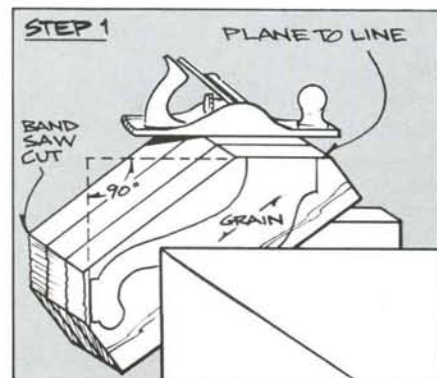
Paula Garbarino, who built the 18th-Century Philadelphia Tilt-Top Table featured in this issue, tells us that when breakage does occur, it is typically a splitting of the bottom end of the pedestal and not a failure of the dovetail joint. For this reason it is important to make the pedestal as wide in diameter as design limits permit. On large tables, you should also increase the depth and width of the dovetails.

This special technique applies specifically to the tilt-top table on page 36, as do the dimensions and angles shown in the following steps. However, the basic technique can be used anywhere you need to join legs to a central pedestal. Except for the use of

the band saw and table saw, which speed the work and provide better accuracy, little in the technique has changed from the time when the original version of this tilt-top table was built, about 200 years ago.

To begin, rough cut the three 2 in. thick by 6 in. wide by 16 in. long blanks for the legs. If you have never tried this technique before, we recommend making a practice leg first to test all the set-ups. Now lay out the side profile of the leg on each of the three blanks. Use a full-size cardboard or plywood template to lay out the profiles so all three legs are consistent. Also note the grain orientation, which is important for maximum strength. Use the band saw to cut the corners at the sole of the foot and dovetail joint close to — but not touching — the line. Next, as shown in Step 1, clamp the three legs together in the bench vise, and hand plane to the line. The joint and sole

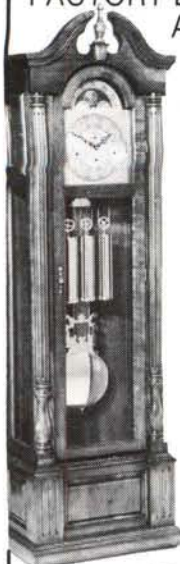
(continued on next page)



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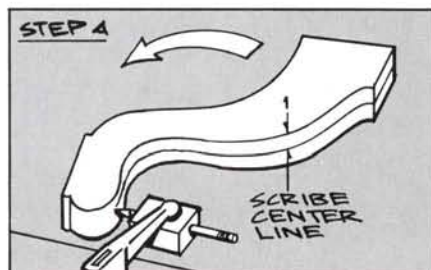
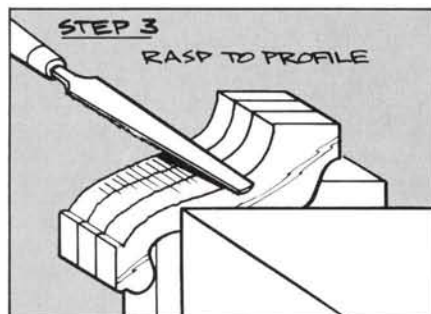
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Special Techniques Continued

surfaces that you are planing must be perpendicular to each other. The template should have provided an accurate pattern, but check with a framing square to be sure.

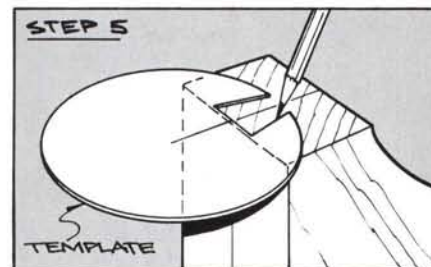
Next, remove the leg blanks from the vise, and cut the side profiles on the band saw, keeping outside of the pencil line (Step 2). Then re-clamp the legs in the vise, and use the rasp to fair all three legs to the same profile (Step 3).



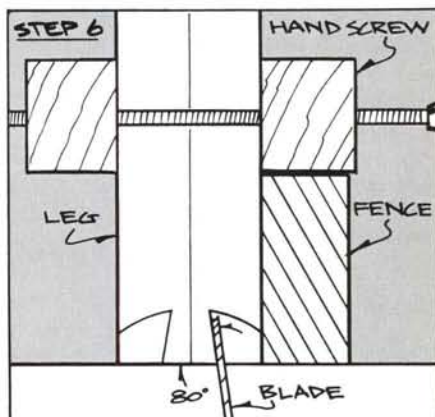
This will help to insure that the legs turn out looking the same.

Now, using a small block drilled to accept a pencil so the point of the pencil is 1 in. up from your bench surface, mark the center line all the way around each leg (Step 4). As shown, the pencil block is clamped to the bench, and the leg is rotated past the pencil point. This line is needed for alignment of the leg with the pedestal, and also serves as a guide when shaping the leg.

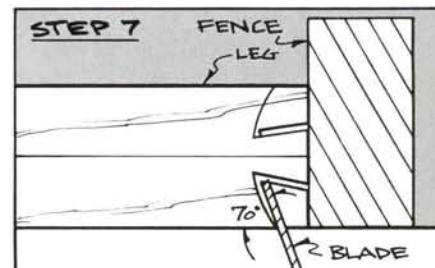
Now make a cardboard or plywood circle template the diameter of the leg end of the pedestal. Lay out the dovetail dimensions (as shown on page



37) on the template. Then transfer a centered dovetail to each leg, top and bottom, and draw the curve of the cylinder at the base of the dovetail using the circle template (Step 5). With

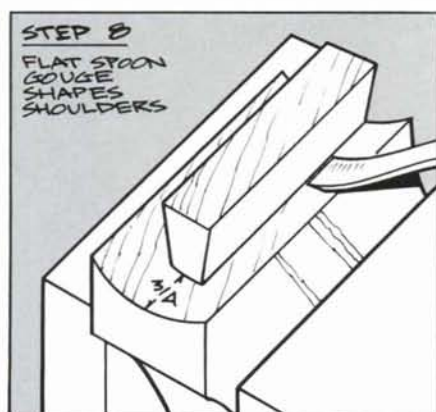


the foot in the air, first cut the sides of the dovetail on the table saw (Step 6). As the illustration shows, the table saw blade will be tilted to an 80-degree angle. Set the fence so the cut will leave the pencil line. A hand screw clamped to the leg and riding the top of the fence will give you extra support and security. Next, with the leg flat on its side, cut the shoulders (Step 7). Tilt the



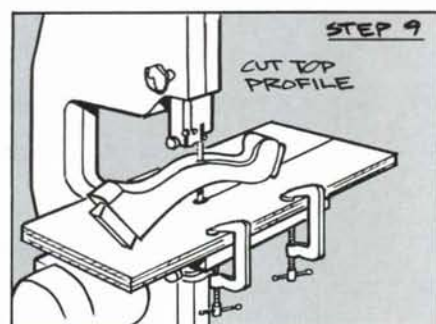
blade to 70 degrees and cut as close as possible to the curve drawn from the template, but leave the line. Have scrap wood behind this second cut to push out the waste and avoid kickback of the cut-off.

In Step 8 you'll clamp each leg in the bench vise, notch the top end of the dovetail back 3/4 in., and then use a flat spoon gouge to cope the shoulders of the dovetail to fit the curve of the pedestal. You may want to undercut a bit to insure a flush fit, but the visible line where the leg meets the pedestal must remain very straight. This straight edge is required if the leg is to fit properly to the pedestal. The top of the leg where the dovetail was notched



back must also be coped to match the curve of the pedestal.

Next, you'll use the band saw to taper the sides of the leg. Make a paper template that is 2 in. at the dovetail, 1 1/4 in. at the ankle, and quickly returns to 2 in. at the foot as a guide for tracing the top profile on the legs. Then, using an auxiliary plywood table on the band saw, as shown in Step 9, cut to the scribed line. Note that the leg rests on

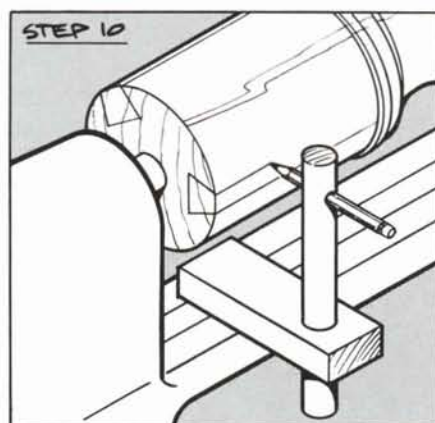


two points for this operation.

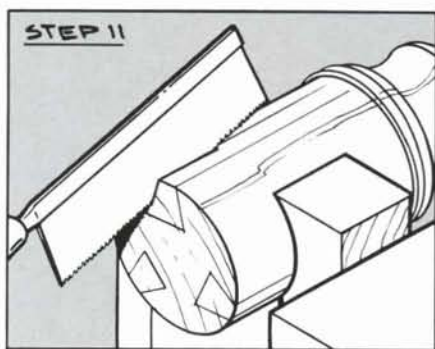
Now shape each leg, roughing in with the mallet and chisel or with the spokeshave. Cross sections of the leg are shown on page 37. Use a rasp, files, and the cabinet scraper to smooth the legs to final form. The 3/16 in. high pad under the foot is carved with a V-parting tool and small gouges.

Next, you'll cut the dovetail mortises in the pedestal. First, lay out the center points of the three dovetails, 120 degrees apart on the bottom end of the pedestal, and carry the lines to the edge. Then use the dovetail of each foot as the pattern for laying out each of the dovetail mortises, and number the legs and corresponding dovetails so that they won't be confused later. Returning the pedestal to the lathe, use a pencil holding jig to extend the scrib-

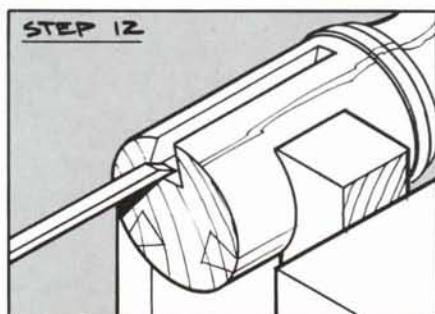
ed lines for each dovetail up the pedestal the length of the dovetail. As shown in Step 10, the jig rides off the bed of the lathe.



Now clamp the pedestal in the bench vise, using bandsawn blocks that match the pedestal curve, and saw up to the pencil lines with a dovetail saw (Step 11). Chisel out the waste, and



pare the mortise walls and floor to fit the leg dovetail (Step 12). The fit of the leg should not be forced. If the fit is a little loose, the tail can be shimmed with a piece of veneer. The critical point is that the shoulder edge of the leg be tight against the cylinder. Legs should be glued on only when all other cutting and fitting is completed. 

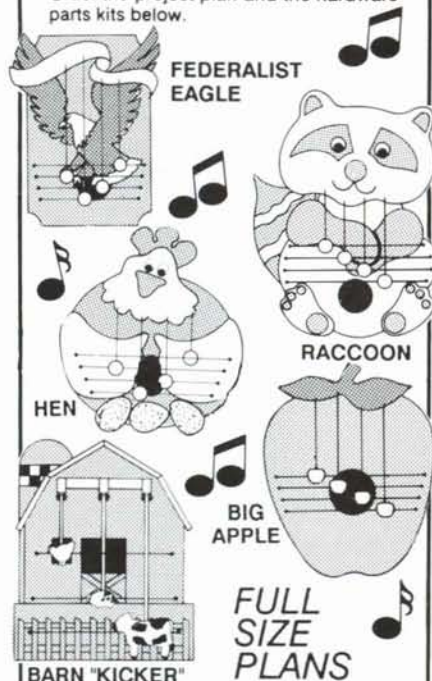


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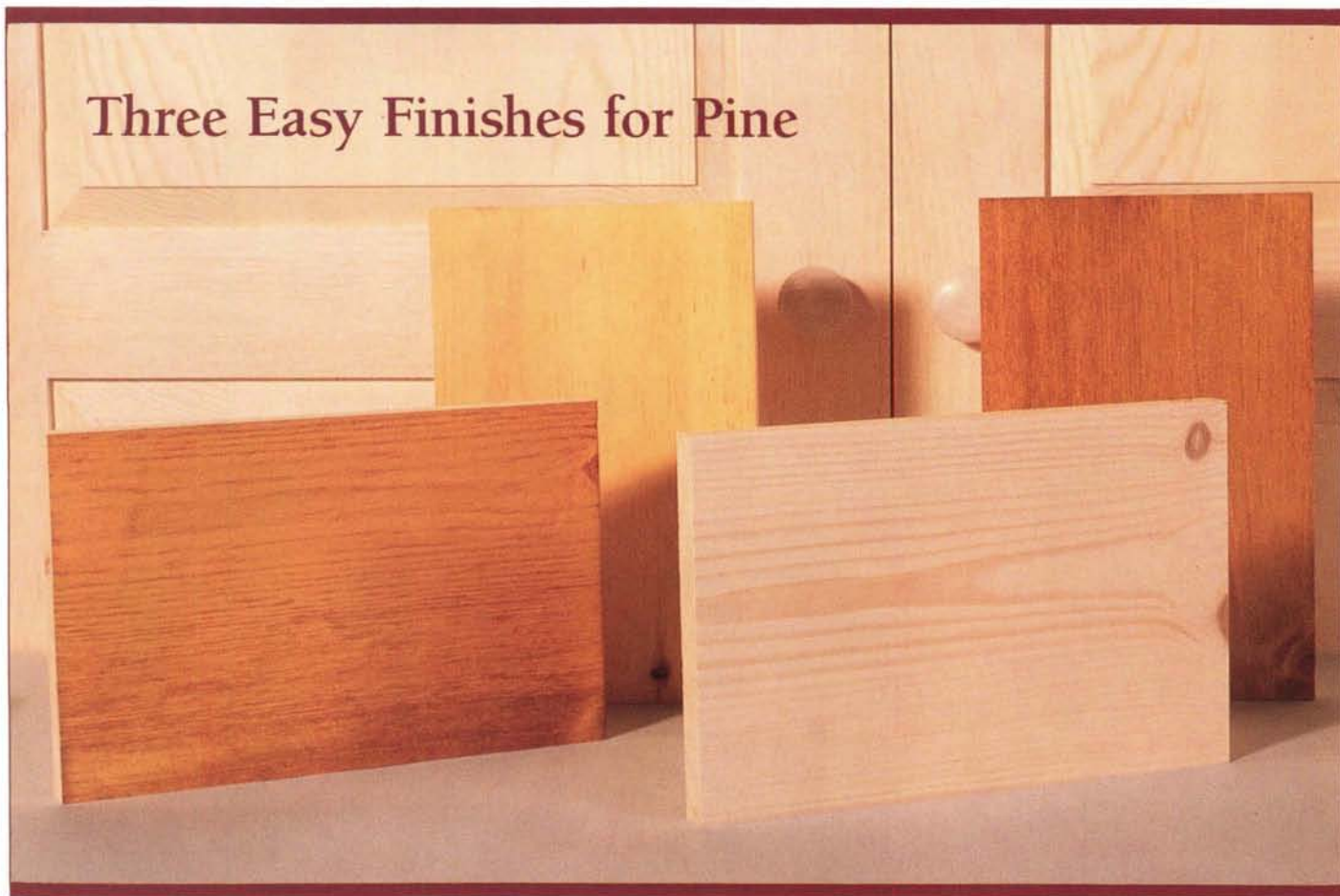
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Finishing

Three Easy Finishes for Pine



Pine is often the favorite wood for builders of country style furniture. Few woods cut as easily or are as inexpensive and versatile. Yet, many who work with pine agree that it's difficult to achieve a predictable finish. Blotchiness or uneven color is often a problem, and what looks great on one piece of pine may look dreadful on another.

While we've yet to discover the perfect pine finish, here are three recipes that you might like to try. The first recipe, a faux pickled pine, imitates the aged appearance of old pine, similar to the look of painted antiques that have been stripped. The second recipe uses two different stains to lend new pine an antiqued look. The third recipe uses a sealer and stain to show off the natural beauty of new pine, gently softening and mellowing its golden tones without the blotchiness that commonly results when stain is applied on pine. We'd like to thank Gene Cosloy of Great Meadows Joinery in Wayland, Massachusetts, for sharing the latter two recipes with us.

The photo above shows four test boards. The three stained boards are cut from the same length of pine. Starting at the left, the first test board shows a McClosky Tungseal Maple stain without the sealer coat of Stain Controller, and displays the uneven color so common with pine. The next board shows a natural pine look using Minwax Colonial Maple applied over the McClosky Stain Controller. Note how the application of the *Stain Controller* sealer coat results in more even stain absorption, without the characteristic blotchiness

of the first board. The third board is a sample of our faux pickled pine finish, as used on the Pine Armoire on page 50. The fourth test board shows an antique pine look, using McClosky Tungseal Dark Walnut stain applied over their Tungseal Maple.

Faux Pickled Pine

There are many chemical methods to "pickle" pine, although they typically involve complicated recipes and dangerous chemicals. Our faux pickled pine technique is really nothing more than a latex primer, wiped on and then off, followed by a clear finish coat of lacquer or polyurethane. We used a white latex primer. Primer is formulated differently than paint, and is designed to penetrate and seal the surface of the wood. You could also use paint, but primer is probably the better choice.

The surfaces of the armoire should be sanded up to 150 grit. You could sand up through 220 if you prefer, but the effect of the primer will be muted, since less will be held on the surface. The use of a coarser sandpaper will result in a whiter look, since more of the white primer will be trapped in the minute scratches left by the sandpaper. An oscillating pad sander was used for the final sanding before applying the finish.

We thinned the primer about 40 to 50 percent with warm water and then brushed it on. Work the brush both with and

against the grain for maximum penetration.

Only spread the primer on one surface at a time. The thinned primer dries quickly, and on surfaces as large as the side of the armoire, you'll need to work fast.

Next, wipe off the excess primer. We found that a dry cloth tended to cause the tacky primer to ball up, but that a damp, soft cloth actually helped to enhance the primer's penetration. Use the damp cloth, wiping with the grain, to flow the primer into the grain as you wipe the excess off. If the cloth becomes loaded with excess primer, rinse it and wring the water out before going back to work.

While we used white for the armoire, by adding color tints to flat white primer you could achieve a blue, red, or other hue to suit a particular decor. The base coat of primer can be further enhanced by a second coat where more color or coverage is needed. When dry, the armoire was finished with a clear coat of spray lacquer.

The technique of brushing on and then wiping off a base coat of primer or thinned paint can be used in a variety of applications. It is especially useful with a piece that has been distressed or that has many crevices that catch the paint. Applied dentil moldings are one example of a detail that will hold the paint.

Another use for this technique is as a way to highlight softwoods such as pine that have been artificially worn or aged. First use a propane torch to scorch the surface of the wood. Don't let the surface of the wood burn; it should be evenly browned, but not blackened like charcoal. Use the torch in a broad sweeping motion, and don't hold it in one place. Then remove the charred wood with a wire brush. The harder latewood of each growth ring should stand proud, while the softer early growth, which is more easily charred, is brushed away. Now apply a wash coat of primer or paint and, when

*... the technique produces a finish
that is three-dimensional, with
lighter highlights penetrating through
the darker top coat.*

dry, sand lightly. The sandpaper should remove the paint from the ridges of latewood, exposing the natural color of the wood at these high points. A light application of stain is now applied. The stain softens the brightness of the paint, making it look old. The stain also tones the ridges of latewood that the sanding exposed.

This technique dramatically accents the swirls and concentric circles of pine, and can produce especially lovely effects on wood with a wild or pronounced grain.

Rick Butz used a similar technique to finish the Merganser Decoy featured in the January/February 1989 issue of *The Woodworker's Journal*.

March/April 1989

Antiqued Pine

After final sanding the piece to be finished, apply a light colored penetrating oil stain, such as McClosky's Tungseal Maple. McClosky Tungseal Maple has little or no pigment (the kind of coloring agent that settles out at the bottom of the can) and uses dye as the primary coloring agent. It's important that the base stain you use for this technique not be heavily pigmented. If you use a stain such as Minwax Colonial Maple, which has considerable pigment, let most of the pigment settle out and then pour some stain off the top. The result will be a lighter version of the stain.

Wipe the stain on with a rag, and wipe the excess off. After letting it dry for 24 hours, apply a second stain that is deeper and darker, with more pigment, such as McClosky's Tungseal Brown Mahogany or Dark Walnut. Again, wipe the stain on, and then off, using a clean rag. Highlights of the lighter stain should show through the darker second stain. When dry, wipe on two wash coats of one-pound cut shellac with a clean cloth. Let the first coat dry for one hour, and then steel wool before applying the second coat. When dry, finish with a hard paste wax such as Butcher's or Minwax.

Cabinetmaker Gene Cosloy says he developed this recipe for pine that should look old in an elegant way, with a mellow warmth, and not dark or dull as is the case with many commercial antique pine finishes. He maintains that the technique produces a finish that is three-dimensional, with lighter highlights penetrating through the darker top coat.

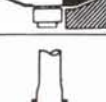
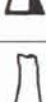
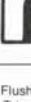
Natural Pine

After final sanding the surfaces to be finished, apply a generous coat of McClosky's Stain Controller. The Stain Controller looks like a stain, but without any pigment. It penetrates and seals the wood, and is especially effective on softwoods because it holds down and binds the wood fibers so pigments don't settle in deep enough to create the mottled look that is often a problem with pine. Flood the Stain Controller on with a brush or rag, allow it to penetrate for about five to ten minutes, wipe off any excess, and let dry at least eight hours or overnight.

Next, wipe on the stain that you have selected. Cosloy uses Early American by Red Devil, which he says has a lovely reddish brown color that imparts a warm honey tone to the wood. However, other stains will work as well if you prefer a different tone. We used Minwax Colonial Maple. Thin the stain about 50 percent with turpentine, wipe it on with a rag, and then wipe off. Don't try to hit the desired shade right away. It's better to apply two or three light coats to achieve the shade you want. The Stain Controller will produce an even penetration of the stain. Finally, finish with polyurethane or penetrating oil. Do not use lacquer, shellac, or alcohol base or latex stains, as these products can be incompatible with the Stain Controller. The key to this technique is to only lightly color the wood. If the stain is too heavy or dark, the natural beauty of pine will be obscured. When done properly, the pine should be mellow and warm in a natural way, and not heavily stained or colored.



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The Portable Circular Saw

The portable circular saw is an important part of any shop. The saws aren't designed for heavy work such as frequent ripping of 2 in. thick oak, but they do have many uses around the shop. They're great for cutting plywood panels to size and crosscutting boards or planks too long or heavy to handle on the table saw. They're even useful for precision joinery with a few simple jigs. With a good quality blade the saws are capable of a very smooth cut. But remember to keep the stock's good side down because the blade turns up into the workpiece.

Setup

Portable circular saws generally come fully assembled and ready for use. However, before operating, you should observe some simple precautions and familiarize yourself with the layout and operation of the machine (Fig. 1).

First, make sure the machine is unplugged. Never make any adjustments or change a blade with the saw plugged in. Check to make sure that the blade is tightened securely and that the lower blade guard works smoothly and snap shuts.

To remove the blade, unplug the saw and insert a block of wood between the saw teeth and the base of the saw. The block holds the blade still while you turn the bolt. Unscrew the locking bolt with a wrench. Be sure to install the blade in the right direction. The teeth face forward and turn up and into the front of the base. While installing the blade, also check for chipped, bent or missing teeth. Be careful not to lose the lock washer when changing blades.

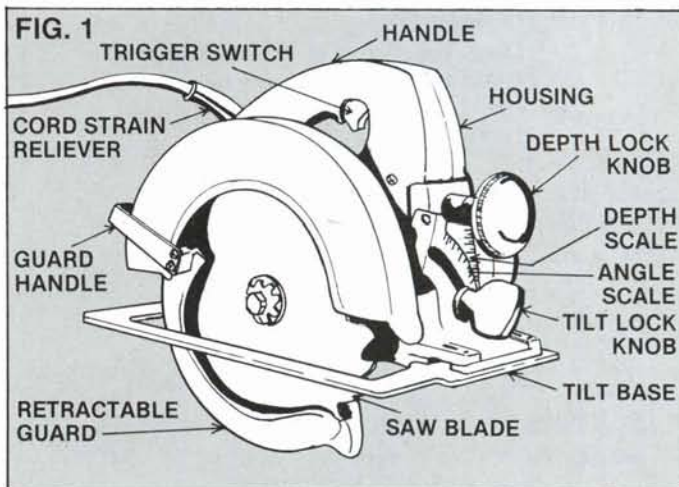
With the saw blade installed, but the machine still unplugged, go over the operation of the various saw adjustments. Saws generally have wing nuts or knobs to release sliding adjusters that raise or lower the saw base — in relation to the

blade — and change the cutting angle. Put the saw on the edge of a bench and try adjusting the depth of cut. Notice how the base moves in relation to the saw blade and motor. Also notice that you generally need to move the lower blade guard out of the way to clearly see the depth of cut. For that reason, always use extra caution when adjusting the blade. Always retract the lower guard with the handle and keep your fingers clear of the blade.

Now try adjusting the angle of cut or bevel. Loosen the tilt knob or wing nut, and pivot the saw back and forth. Set the blade for a 90-degree cut, and then check it with a try square.

Starting The Saw

Before starting the saw, make sure the work is supported properly on a bench, table saw or sawhorses. If the workpiece is light enough to move during the cut, clamp it firmly in place. The saw should rest on the portion of the workpiece you want to keep. Position yourself comfortably and with two hands on the saw. Make sure the power cord will be out of the way during the cut. Also make sure there's clearance for the saw blade under the line of cut.



Put the front of the saw on the workpiece, with the saw blade not quite making contact. Align the cutting line with the index on the saw base. Start the saw. Proceed into the cut, guiding the saw with both hands and moving your whole body forward with the saw. Keep the index mark on the saw base lined up with the cutting line. Cut slowly and evenly, letting the saw do the work.

At the end of the cut allow the saw to stop completely before moving it. If the saw must be moved before the blade stops turning, make sure the lower blade guard is closed before setting the saw down. When completing a cut, never try to reach around and hold onto the waste piece. Let it fall.

For ripping, always use some sort of straightedge or rip guide. The guide keeps the saw lined up with the cut. Developing the habit of always using a rip guide will prevent numerous kickback episodes. Many accidents are caused by kickback, which occurs when the saw blade jams in the cut, forcing the saw into a violent exit from the workpiece.

When ripping, don't overload the saw. If it bogs down, stop and let the saw resume speed.

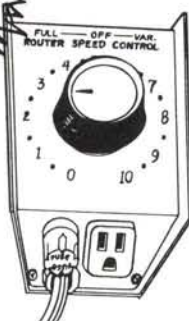
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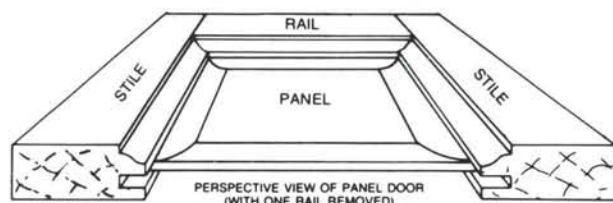
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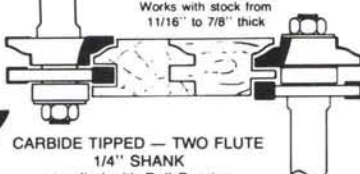
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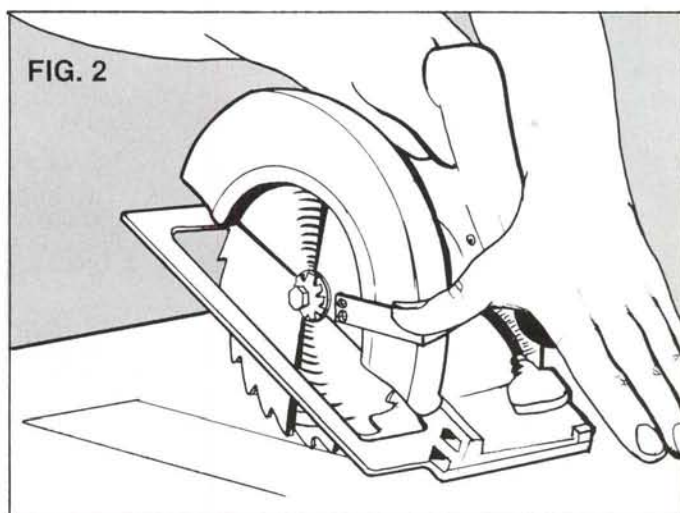
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In The Shop Continued

Pocket Cuts

Pocket cuts allow you to start the saw over the workpiece and cut openings inside a larger workpiece. First, adjust the saw blade to the appropriate depth, about 1/8 in. deeper than the wood to be cut. Place the front of the saw on the workpiece and over the layout line. Position the saw so that when it penetrates the wood and the saw base comes down on the workpiece, the saw blade will remain within the layout lines and at the start of the cut. With the saw held at an angle, retract the lower guard using the handle. Don't let your fingers bend loosely in front of the saw, but extend them in such a way as to keep them well away from the blade (Fig. 2). Start the saw, with the blade still clear of the workpiece, and lower the blade into the cut.

FIG. 2



Bevels and Miters

Bevels and miters are cuts made at an angle to the workpiece. You can make them by cutting at an angle across the wood, or by cutting across the wood with the saw blade tilted, or by doing both at the same time. The last is called a compound miter. Miters and compound miters can strain the saw, so it's best to use a guide such as a straightedge and clamp the work securely. Also, cut slowly and steadily. Note that when you tilt the blade, the cutting line on the good side of the stock, which is facing down, is offset from the path the saw actually makes on the side you're looking down on. You need to allow for the angle of the cut when laying out your cuts. It's best to mark both top and bottom of the workpiece with the bevel so you eliminate the possible confusion.

Simple Jigs

There are many useful jigs you can make to greatly increase the ease of use and the accuracy of your circular saw. The simplest jig is just a large T-square used to help crosscut stock (Fig. 3). It has a kerf in the base of the T so you can line it up with the cutting line on the workpiece.

A refinement of the T-square idea is the cutting box shown in Fig. 4. Here, tracks guide the saw base so there's no possibility of the saw wandering from the straightedge. You just slide the workpiece into the box, hold or clamp it steady, and cut across.

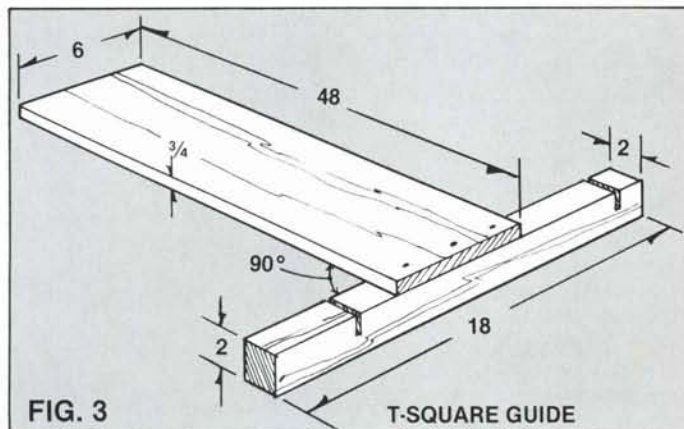


FIG. 3

T-SQUARE GUIDE

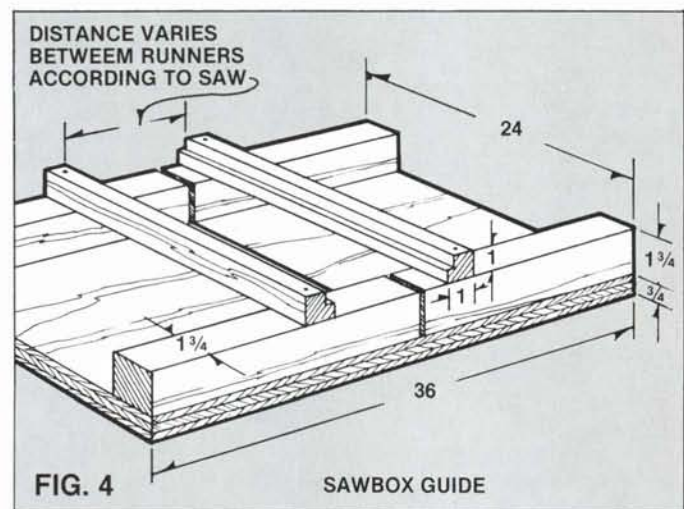


FIG. 4

SAWBOX GUIDE

Safety Tips

1. Keep your hands clear of the saw blade. Never reach underneath the workpiece and never remove waste while the saw blade is moving.
2. Keep your blades sharp. A sharp blade minimizes kickback and won't bog down as easily as a dull blade. Always use the proper size blade for your saw.
3. Make sure the blade guards work properly before every use of the saw. Don't use the saw if the guard doesn't snap shut.
4. Support the workpiece properly. Clamp smaller pieces to a bench or sawhorses. Make sure larger pieces are secure before starting the saw.
5. Work under control at all times.
6. Wear safety glasses and don't wear loose clothing or jewelry.
7. Don't work in or near water or in damp places.
8. Replace worn or frayed electrical cords immediately.
9. Keep work area clean and uncluttered.
10. Unplug the saw before making any adjustments or changing the blade.



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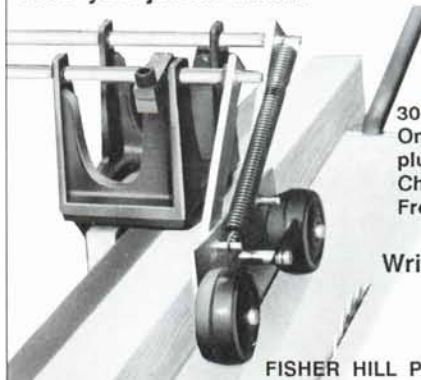
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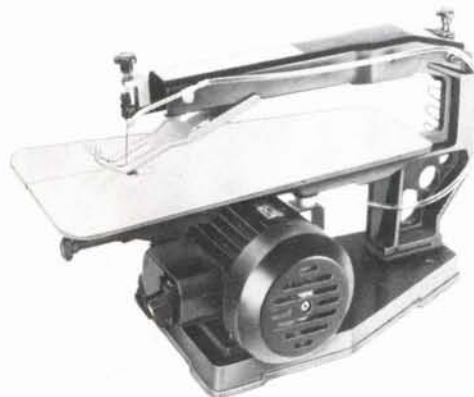
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	PRICE (UPS)
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Dust Blower	15.00 (*)
Saw Stand - 37" high	39.00 (4.00)
4 dz blades (2dz pin, 2dz #9)	14.00 (*)
2 dz Spiral blades (size #2)	10.00 (*)

(*) No freight charge if ordered with Saw; \$3 for any combination of these accessories ordered separately

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SPECIFICATIONS:

- Knives..... 2ea, 12-1/2" wide, HSS
- Motor - 14 Amp, 115V, 8000 RPM
- Auto Feed rate 26.2 FPM
- Cutting speed 16000 Cuts/min
- Thickness of stock 3/16" to 6"
- Size 15-1/2"H X 22"W X 21" Bed
- Max Depth of cut 3/16"
- Machine Weight 65 Lbs



Planer & Accessories Price List

	PRICE (UPS)
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Roller Stand - variable ht.....	35.00 (5.00)
Hvy duty, ball bearing, ht 25-45"	

(*) No frt chg if ordered w/Planer, otherwise add \$3.00 UPS

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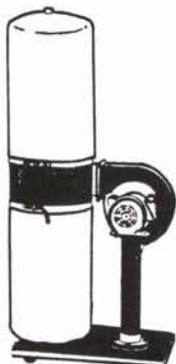
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Simple design and subtle curves create the distinctive Oriental look of this mirror frame. Designer Marty Shapiro made his from padauk and bird's-eye maple, but just about any carefully selected combination of woods will work well. The narrow shelf at the bottom is a perfect place for odds and ends or jewelry.

The backing board (D) and mirror glass (E) should be purchased and cut before you begin construction of the mirror, since you'll need to know their combined thickness. We used $\frac{1}{4}$ in. thick hardboard (Masonite) for the backing board, but plywood is also fine. To avoid any problems with fit, have the mirror glass and backing board cut so that they measure $\frac{1}{6}$ in. less in both length and width than the actual 12 in. by 24 in. dimensions listed in the Bill of Materials.

Start by laying out and cutting the sides (A). You'll need two pieces, each measuring 1 in. thick by $1\frac{1}{4}$ in. wide by $28\frac{7}{8}$ in. long. Also lay out and cut blanks for the top (B) and the shelf (C). The blank for the top is $1\frac{1}{4}$ in. thick by $2\frac{1}{8}$ in. wide by 19 in. long, and the shelf measures $\frac{7}{8}$ in. by 3 in. by 20 in. long.

Now mount the dado head in the table saw. You'll use it to establish the crosscut notches in the sides, the top and the bottom. These notches are cut before any further machining or shaping is done on the parts.

As you'll note from the detail of the side (Fig. 1), there is a U-shaped notch cut 3 in. up from the bottom end to accept the $\frac{7}{8}$ in. thick shelf. This notch is formed with three $\frac{1}{4}$ in. deep by $\frac{7}{8}$ in. wide dado cuts. Using the miter gauge, cut the two dados on the edges first, and then the dado on the front. Be sure to back up all your cuts to avoid chip-out. Because most dado blades only cut about $1\frac{1}{16}$ in. wide, you'll probably need to readjust your stop to reach the full $\frac{7}{8}$ in. width.

Next, on the top end of each side, use the miter gauge to cut the $\frac{3}{8}$ in. and the $\frac{1}{4}$ in. deep notches that will accept the top piece. Note that these notches are located $23\frac{1}{4}$ in. from the shelf notches. Then use the tenon jig with the piece on end to clean out the waste. Note that the dado blade won't cut the full $1\frac{1}{4}$ in. depth, so you'll need to change to a saw blade here.

Next, establish the notches in the top, as shown in Fig. 2. Remember, though, the stock for the top has not yet been shaped. Set up the table saw with the dado blade to cut the $\frac{7}{8}$ in.



wide by $\frac{3}{4}$ in. deep dados that accept the sides. As shown, if you've cut part B to the proper final length, these notches should be located $2\frac{1}{2}$ in. from the ends of the top. Most importantly, make certain the notches are exactly 12 in. apart. You'll need to make several passes to reach the final depth and readjust the stop to achieve the $\frac{7}{8}$ in. width.

Finally, referring to the detail of the shelf (Fig. 3), cut the $\frac{3}{4}$ in. wide by $\frac{3}{4}$ in. deep notches as shown. While the notches are located $3\frac{3}{8}$ in. from the ends, the most important dimension is the $11\frac{3}{4}$ in. distance between the notches.

With all the dados and notches cut, you can now cut the grooves in the sides, top and shelf to accept the backing board and mirror glass. Use a $\frac{3}{8}$ by $\frac{1}{2}$ in. bearing-guided rabbeting bit or a straight cutter and the fence on the router table. These grooves must be located $\frac{1}{4}$ in. from the front edge of the sides.

First, however, you'll need to measure the combined thickness of the mirror glass and the backing board that you'll use. On our mirror the $\frac{1}{4}$ in. thick hardboard backing board and the $\frac{1}{4}$ in. thick mirror glass add up to $\frac{1}{2}$ in. Therefore, the width of the groove for
(continued on next page)

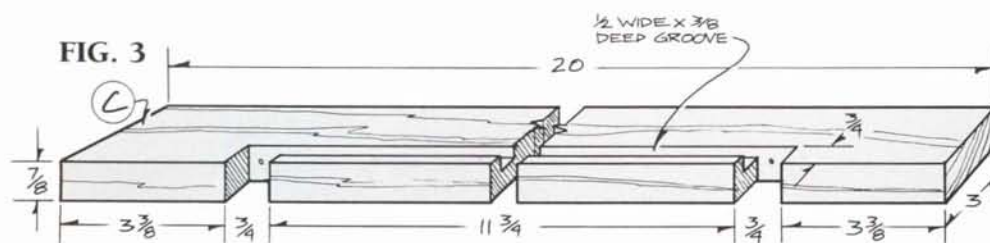
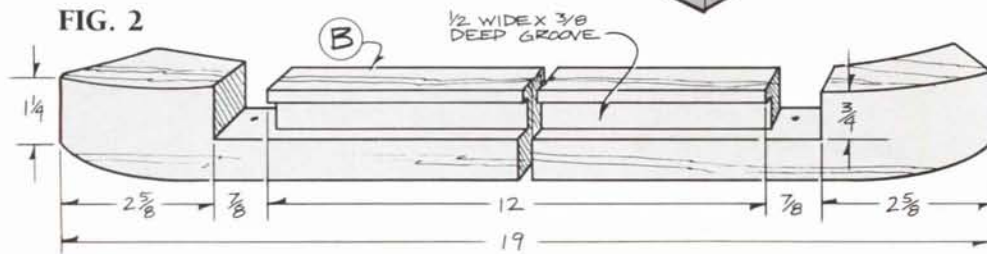
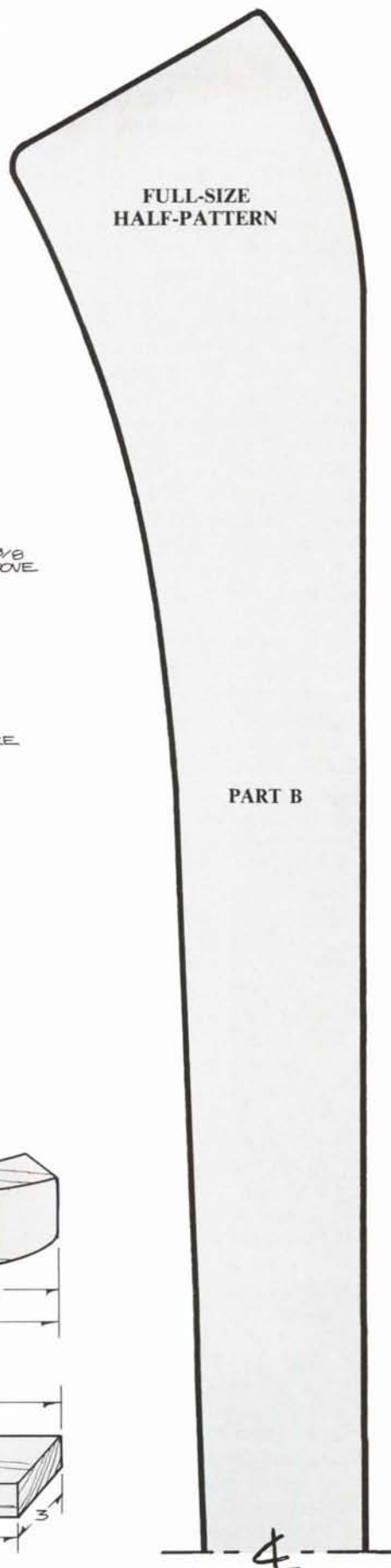
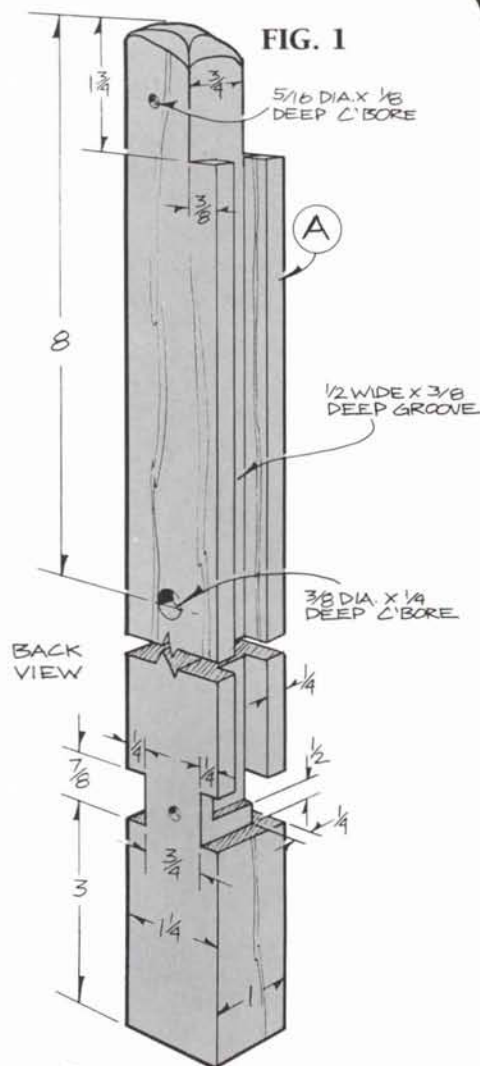
the backing board and mirror also had to be $\frac{1}{2}$ in. This meant that the grooves would be located $\frac{1}{4}$ in. from the back edges of the sides, top and shelf. If we had used $\frac{3}{8}$ in. thick mirror glass and a $\frac{1}{8}$ in. thick plywood backing board, then the width of the grooves in the sides, top, and shelf would be $\frac{1}{4}$ in. and we'd need to use the straight cutter and the router table to establish the $\frac{1}{4}$ in. wide groove. Whatever the combined thickness of the mirror glass and backing board, the important thing to remember when cutting these grooves is that they be uniform on all four pieces of the mirror frame so that the front face of the mirror glass is exactly $\frac{1}{4}$ in. from the back edge of each of the frame parts.

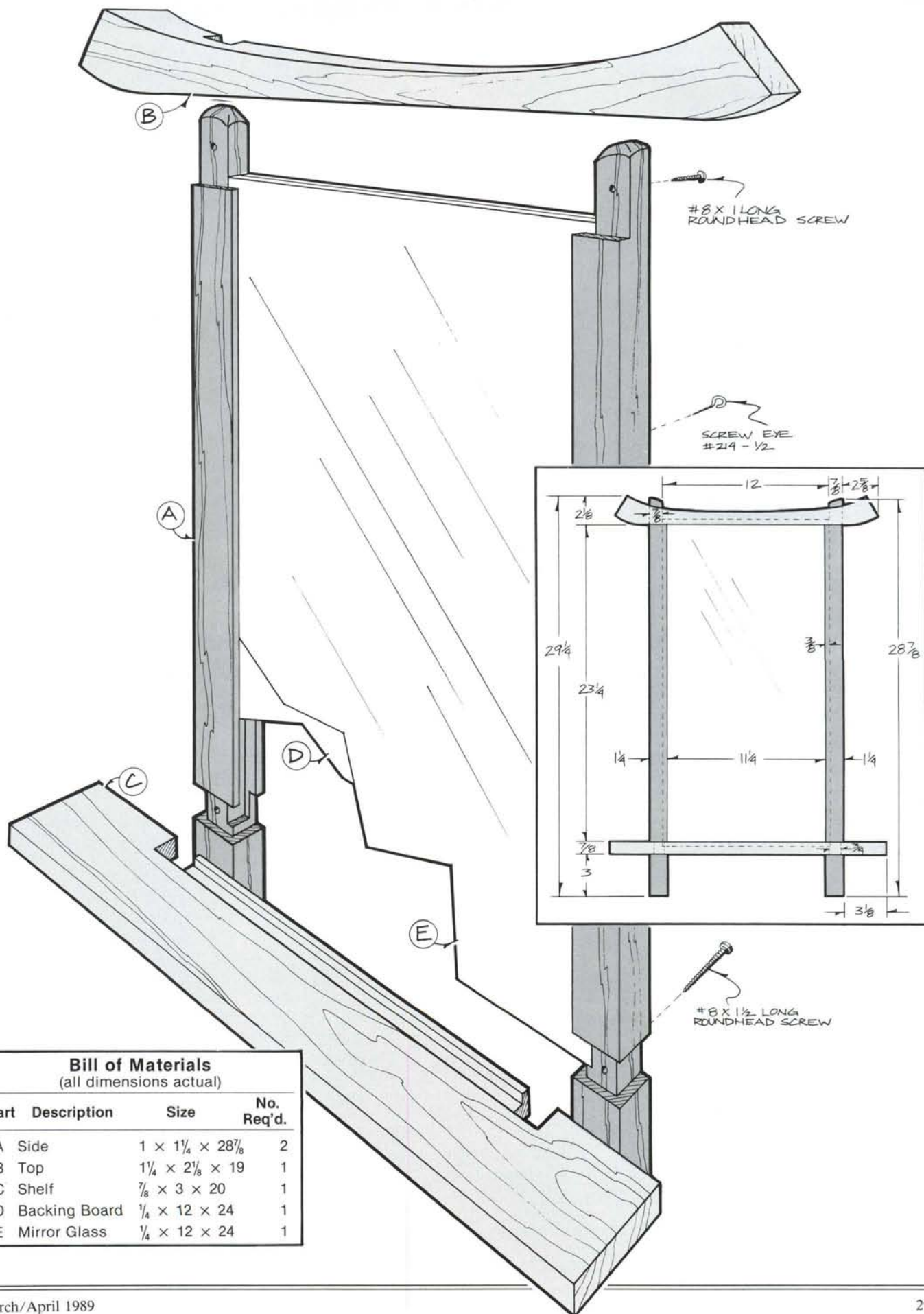
With the notches and grooves established, you can now shape the top and the top ends of the sides. Use our full-size half-pattern to lay out the profile of the top. Cut it out with the band saw or scroll saw and sand it smooth. The bevels on the top ends of the sides are easily established by first using the table saw and miter gauge to cut the ends at 15 degrees, and then using a file to establish the bevels. If you are proficient with the disk sander, you can easily use it to make these bevels. Also, use the drill press and a Forstner bit to counterbore holes for the screw eyes on the back edges of the sides. They are centered 8 in. down from the top end of the sides.

Now assemble the mirror frame and bore through the sides and into the top and shelf for the four screws that hold the mirror together. A counterbore allows the screws to recess so the heads won't protrude from the back.

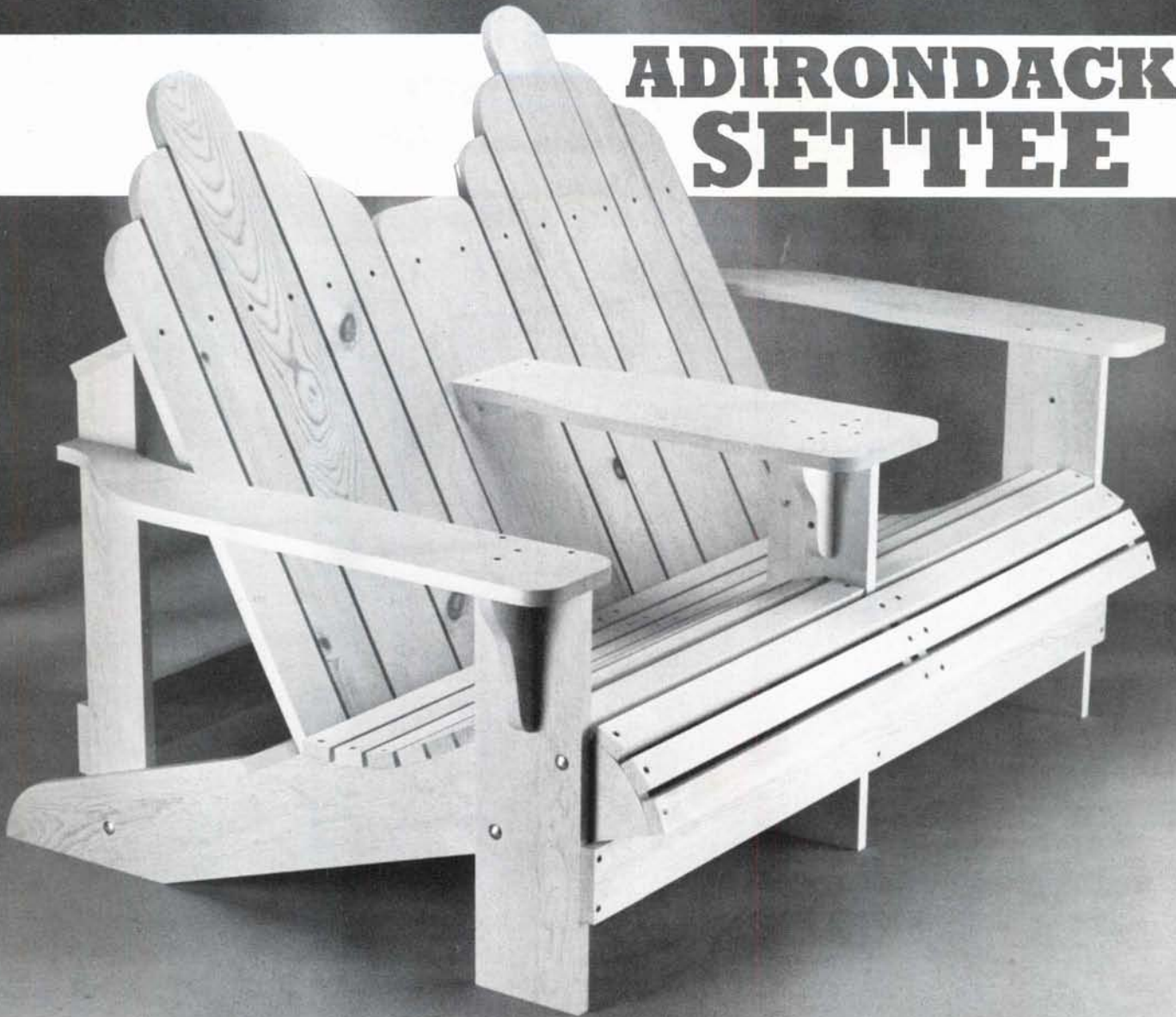
After final sanding and finishing

with two generous applications of tung oil, assemble the two sides and shelf, slide the mirror glass and backing board into place, and then slide the top down into position over the ends of the sides. Add the four assembly screws and two screw eyes to hold a wire for hanging.





ADIRONDACK SETTEE



Here's a great project for spring. Based on the popular Adirondack Chair in our July/August 1986 issue, this design incorporates a double seat with a wide center armrest/table. It's the perfect place for relaxing conversation while sipping lemonade on those hot summer days. Best of all, like the earlier single seat version, the settee is easy to make.

All parts can be cut from no. 2 common pine boards, available at any lumberyard. Many of the parts (A, B, C, D, E) require no ripping cuts, since their width is based on the actual width of common pine boards. For example, the seat frame parts (A), measuring 5½ in. wide, are cut from 1 by 6 pine boards, which measure ¾ in. thick by 5½ in. wide.

Assembly is a simple matter, with most parts fastened using galvanized deck construction screws. A screwdriver bit in an electric drill or a cord-

less screwdriver will speed the work.

Start with the seat frame parts (A). After establishing the 18-degree taper on the bottom end where the seat frame contacts the floor, lay out the seat curve (see seat frame detail). If you are unfamiliar with how to transfer patterns using a grid system, our Woodworking Basics article on page 14 should help. Lay out the 4 in. radius on the back corner and the notch for the lower back frame, and then use the band saw to cut out the seat frame. After sanding the cut lines smooth, use this first seat frame part as a template for marking the pattern on the three remaining parts.

Next, cut the front legs (B), back legs (C), front stretcher (D), and back stretcher (E). Use the table saw and miter gauge to cut the top end of the back legs at 62 degrees. Also cut the upper and lower back supports (F, G) to size.

The back is made up of four sep-

arate components. The middle section (H) is square on both ends, with a 1½ in. radius cut on the corners of the top end. The two center sections (I) have 2½ in. radii on the top end, and the intermediate and side sections (J, K) show ¾ in. and 3 in. radii respectively. Note that the widths of the back sections are calculated to allow a ¼ in. space between each of the pieces. This allows for wood movement.

Assemble parts A through K now. Use galvanized carriage bolts to join the seat frame parts to the legs, and galvanized deck construction screws to join all other parts. Don't buy just any galvanized screws. The heavy galvanized screws used for outdoor deck construction projects are best. Use 2 in. long screws except for joining the cleat to the middle section of the back, which requires a 1¼ in. screw. Be sure to countersink all screw holes.

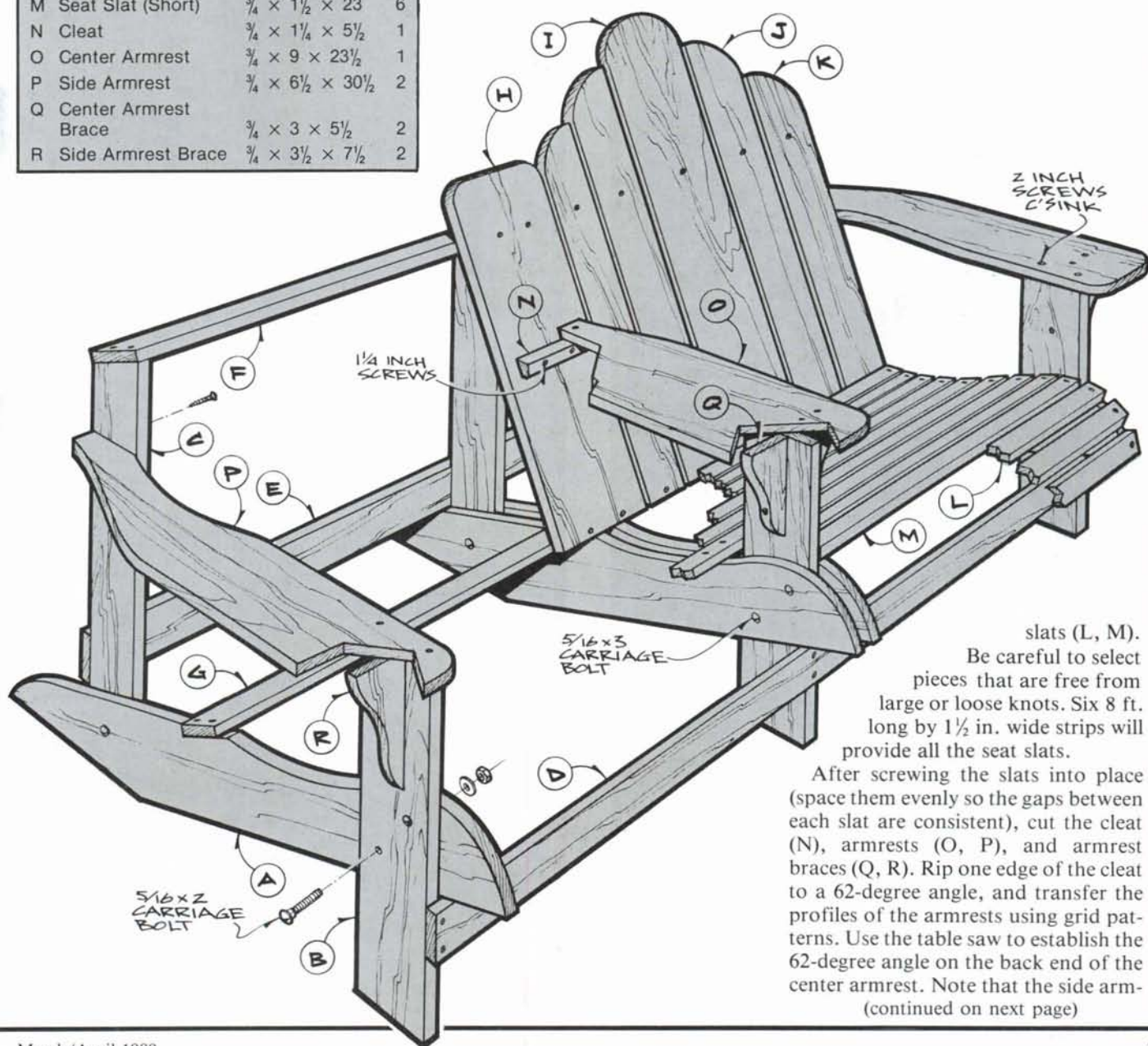
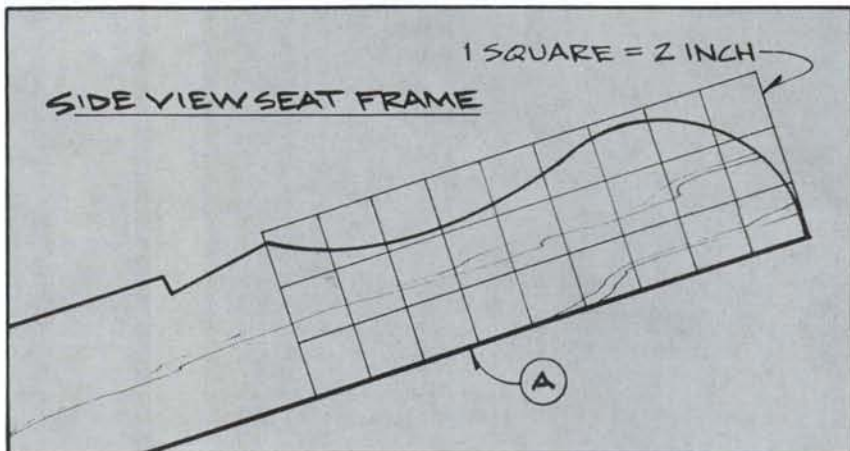
Now measure for and cut the seat

ADIRONDACK SETTEE

Bill of Materials (all dimensions actual)

Part	Description	Size	No. Req'd.
A	Seat Frame	$\frac{3}{4} \times 5\frac{1}{2} \times 38$	4
B	Front Leg	$\frac{3}{4} \times 5\frac{1}{2} \times 20$	3
C	Back Leg	$\frac{3}{4} \times 3\frac{1}{2} \times 25\frac{1}{2}$	3
D	Front Stretcher	$\frac{3}{4} \times 3\frac{1}{2} \times 48\frac{1}{4}$	1
E	Back Stretcher	$\frac{3}{4} \times 3\frac{1}{2} \times 45\frac{1}{4}$	1
F	Back Support (Upper)	$\frac{3}{4} \times 4 \times 45\frac{1}{4}$	1
G	Back Support (Lower)	$\frac{3}{4} \times 2\frac{3}{4} \times 46\frac{3}{4}$	1
H	Back (Middle)	$\frac{3}{4} \times 7\frac{3}{4} \times 23$	1
I	Back (Center)	$\frac{3}{4} \times 5 \times 32$	2
J	Back (Intermediate)	$\frac{3}{4} \times 3\frac{1}{4} \times 28\frac{1}{2}$	4
K	Back (Side)	$\frac{3}{4} \times 3 \times 25\frac{1}{4}$	4
L	Seat Slat (Long)	$\frac{3}{4} \times 1\frac{1}{2} \times 46\frac{3}{4}$	9
M	Seat Slat (Short)	$\frac{3}{4} \times 1\frac{1}{2} \times 23$	6
N	Cleat	$\frac{3}{4} \times 1\frac{1}{4} \times 5\frac{1}{2}$	1
O	Center Armrest	$\frac{3}{4} \times 9 \times 23\frac{1}{2}$	1
P	Side Armrest	$\frac{3}{4} \times 6\frac{1}{2} \times 30\frac{1}{2}$	2
Q	Center Armrest Brace	$\frac{3}{4} \times 3 \times 5\frac{1}{2}$	2
R	Side Armrest Brace	$\frac{3}{4} \times 3\frac{1}{2} \times 7\frac{1}{2}$	2

1 SQUARE = 2 INCH
SIDE VIEW SEAT FRAME



slats (L, M).

Be careful to select pieces that are free from large or loose knots. Six 8 ft. long by 1 1/2 in. wide strips will provide all the seat slats.

After screwing the slats into place (space them evenly so the gaps between each slat are consistent), cut the cleat (N), armrests (O, P), and armrest braces (Q, R). Rip one edge of the cleat to a 62-degree angle, and transfer the profiles of the armrests using grid patterns. Use the table saw to establish the 62-degree angle on the back end of the center armrest. Note that the side arm-

(continued on next page)

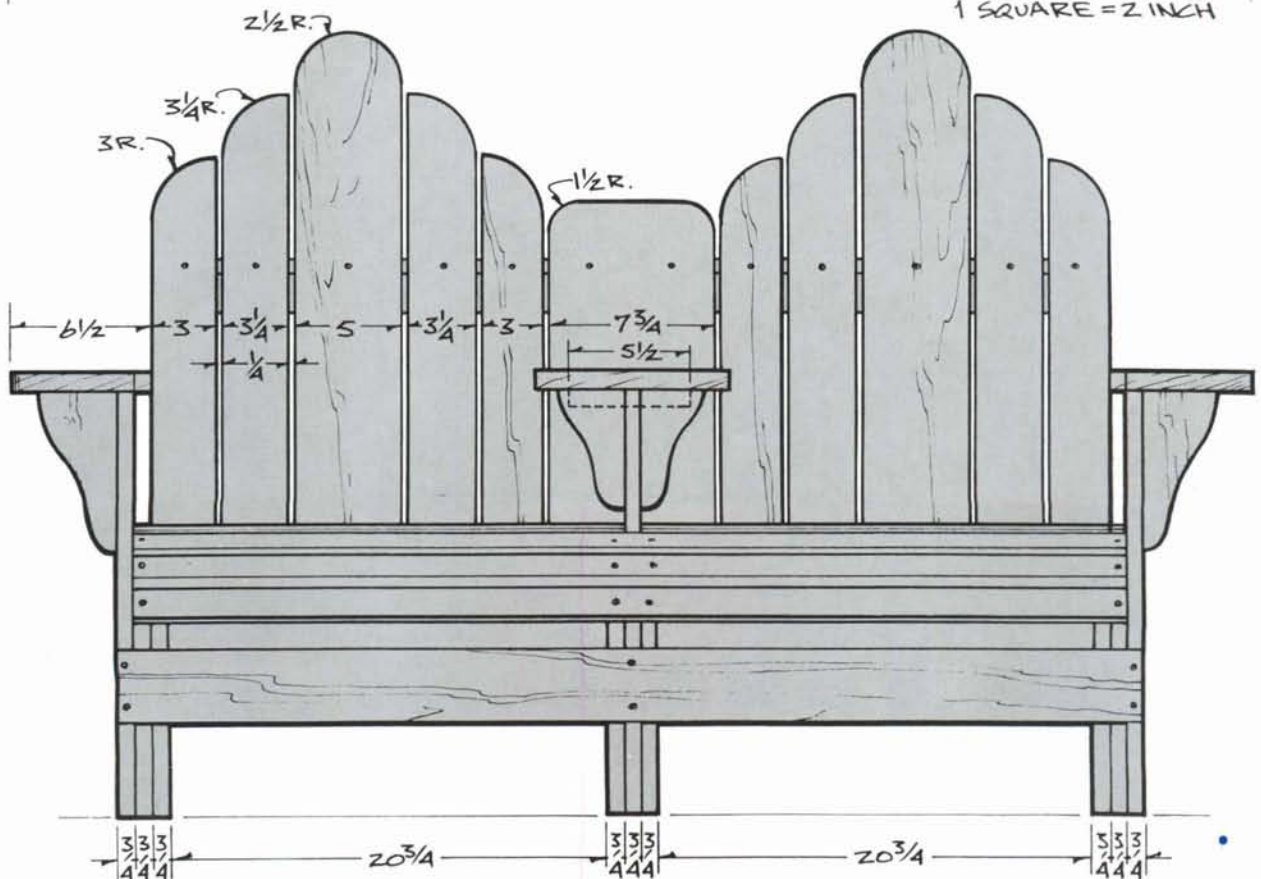
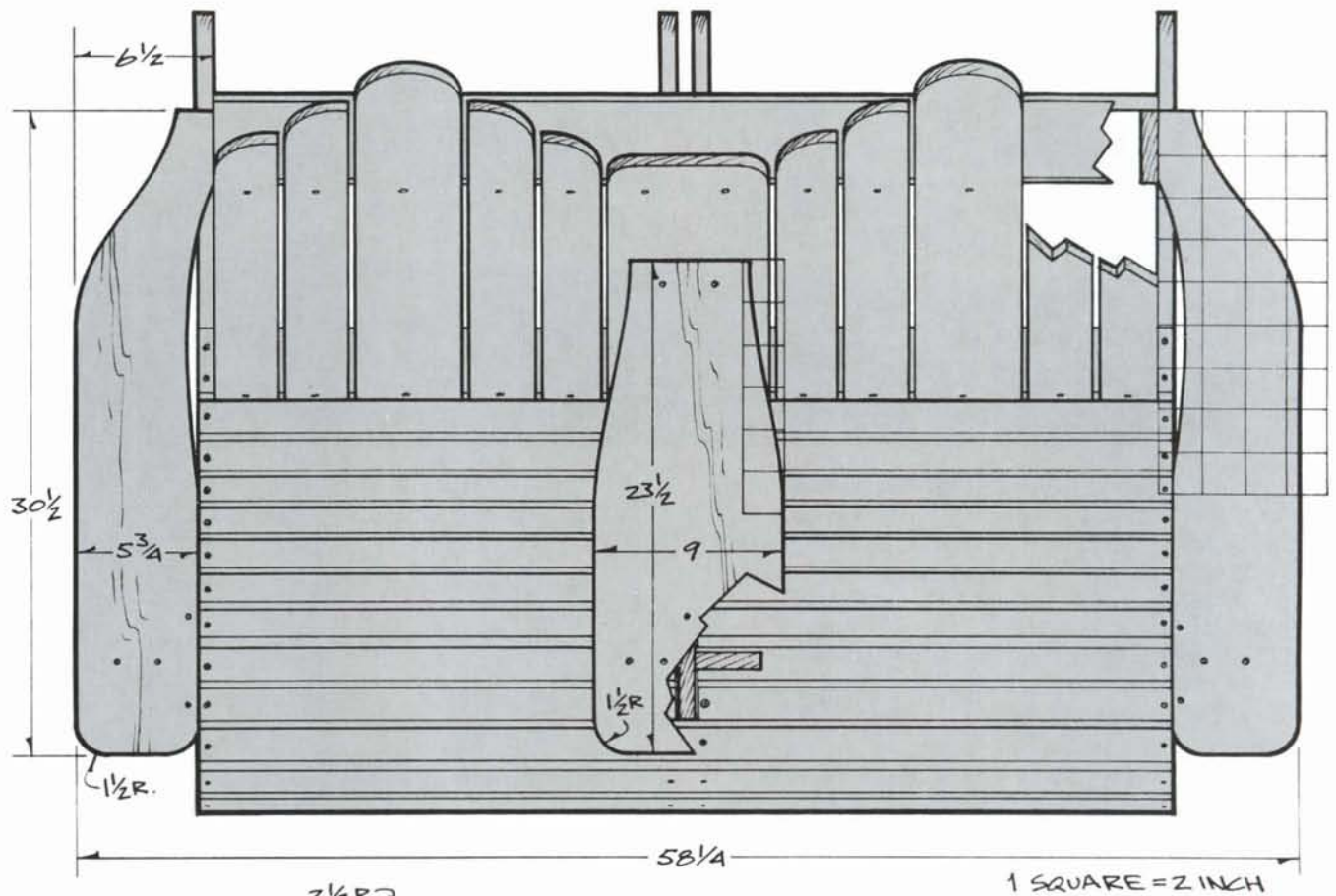
ADIRONDACK SETTEE



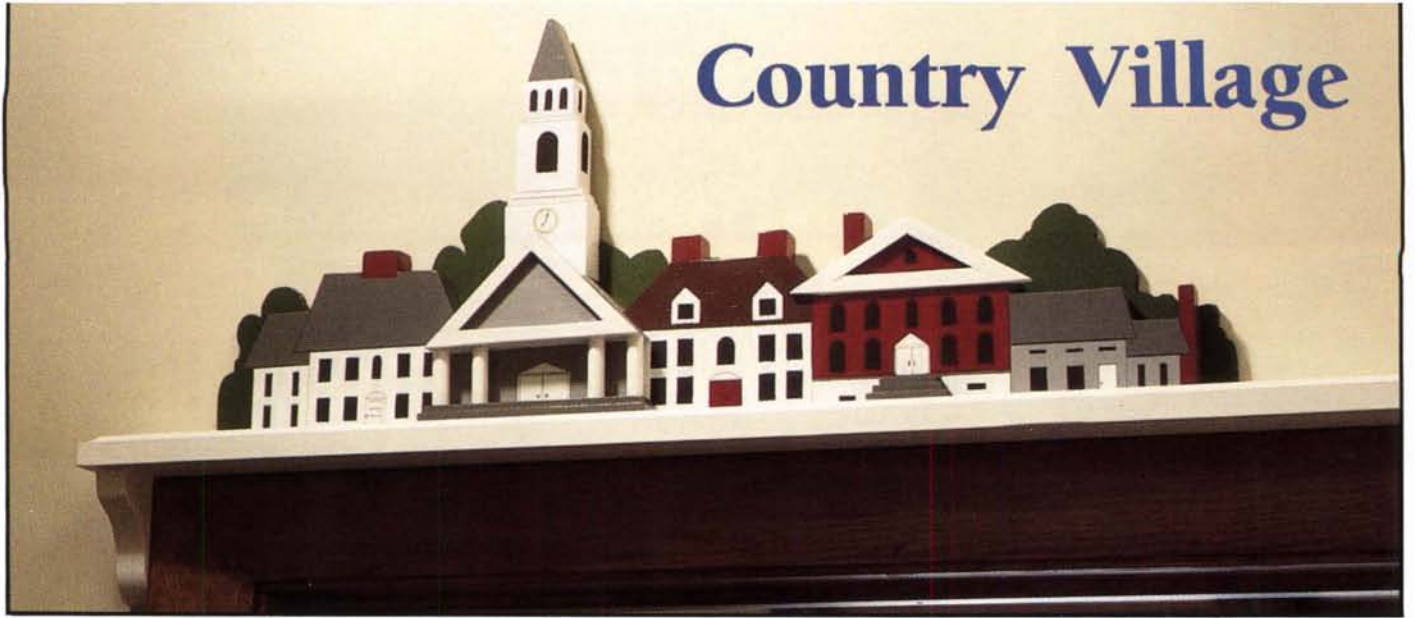
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ADIRONDACK SETTEE



Country Village

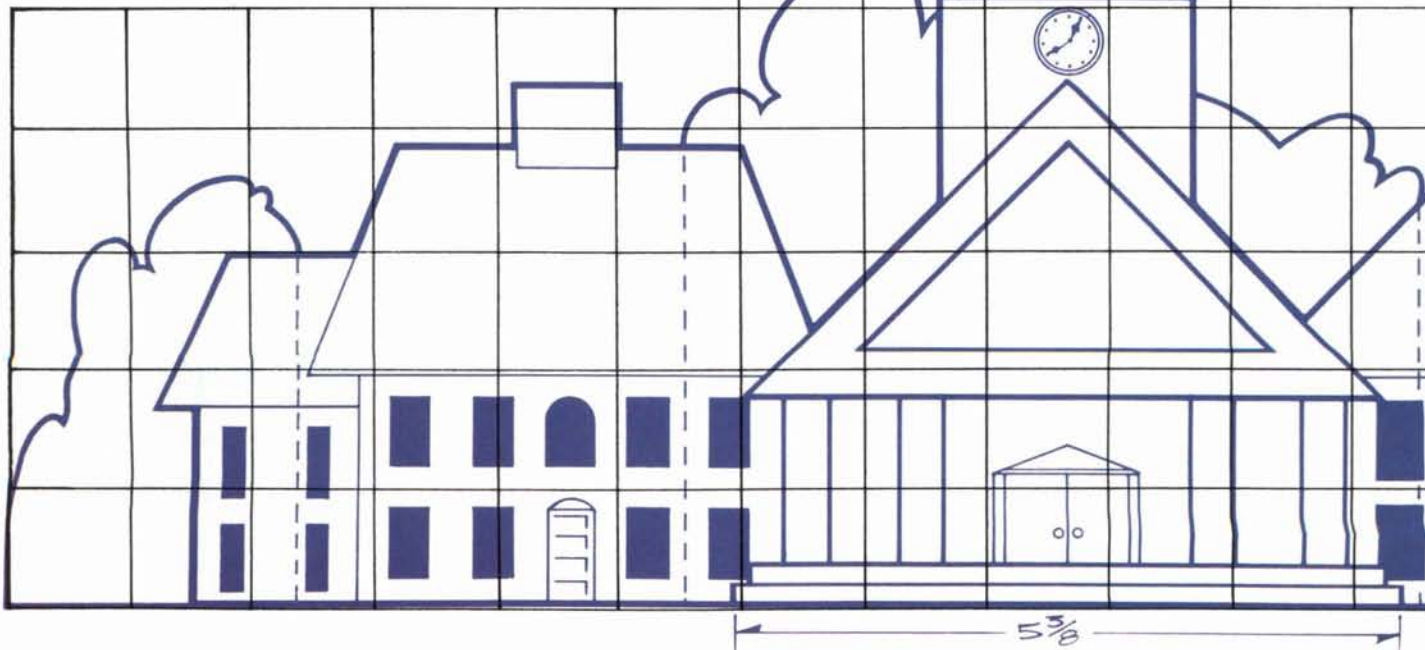
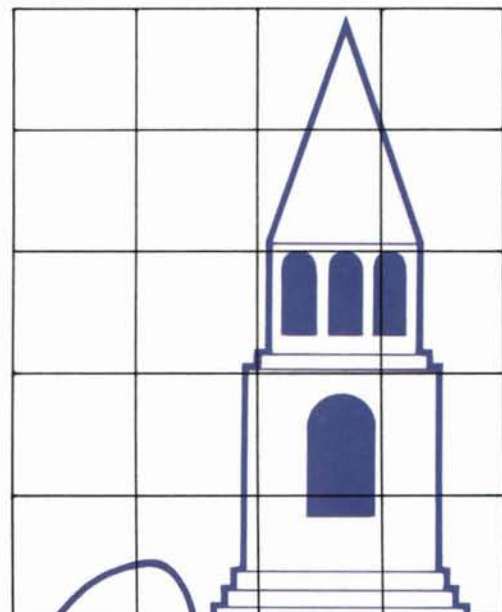


For people of a certain small age, the Country Village can transform a humdrum doorway into an entrance to another land. The houses there may be tiny, but the people all know each other and can't stray from the only road, Main Street. And nobody is hungry because it's always lunchtime, 20 minutes to one by the church clock.

Even if the Country Village doesn't lead you astray into diminutive worlds, it does do something for a room. Maybe it adds a touch of outdoor perspective, or maybe it's just unusual enough to add some folksy humor.

The woodworking involved is easy enough for anyone with a scroll saw and a few basic tools. The buildings (A) are cut out of $\frac{3}{4}$ in. thick pine, and the trees (H) behind are cut from $\frac{1}{8}$ in. thick pine. You'll also need a small piece of $\frac{1}{2}$ in. stock for the triangular roof over the church entrance (B), and some $\frac{1}{8}$ in. thick pine for the two applied facing boards (C and D), as well as the two sets of steps (E and F). The pillars (G) are made from $\frac{3}{8}$ in. diameter dowel.

It's best to assemble the church entrance and the two sets of steps separately and apply them after painting. Just leave the wood unpainted where the entrance and steps are to go, so you can glue them on later.



This mahogany tilt-top table is a reproduction of one built in Philadelphia in the mid-18th century. It is a fine example of how period furniture can mix practicality with elegance. Traditionally brought out for serving tea, tilt-top tables of this type feature a top that both pivots to a vertical position, and swivels around like a lazy Susan. With the top tilted vertically, the table could be stored flat against a wall or in a corner. This saves space yet allows the table to remain on

display, showing off the elegance of its shapely legs and pedestal and its decorative figured top.

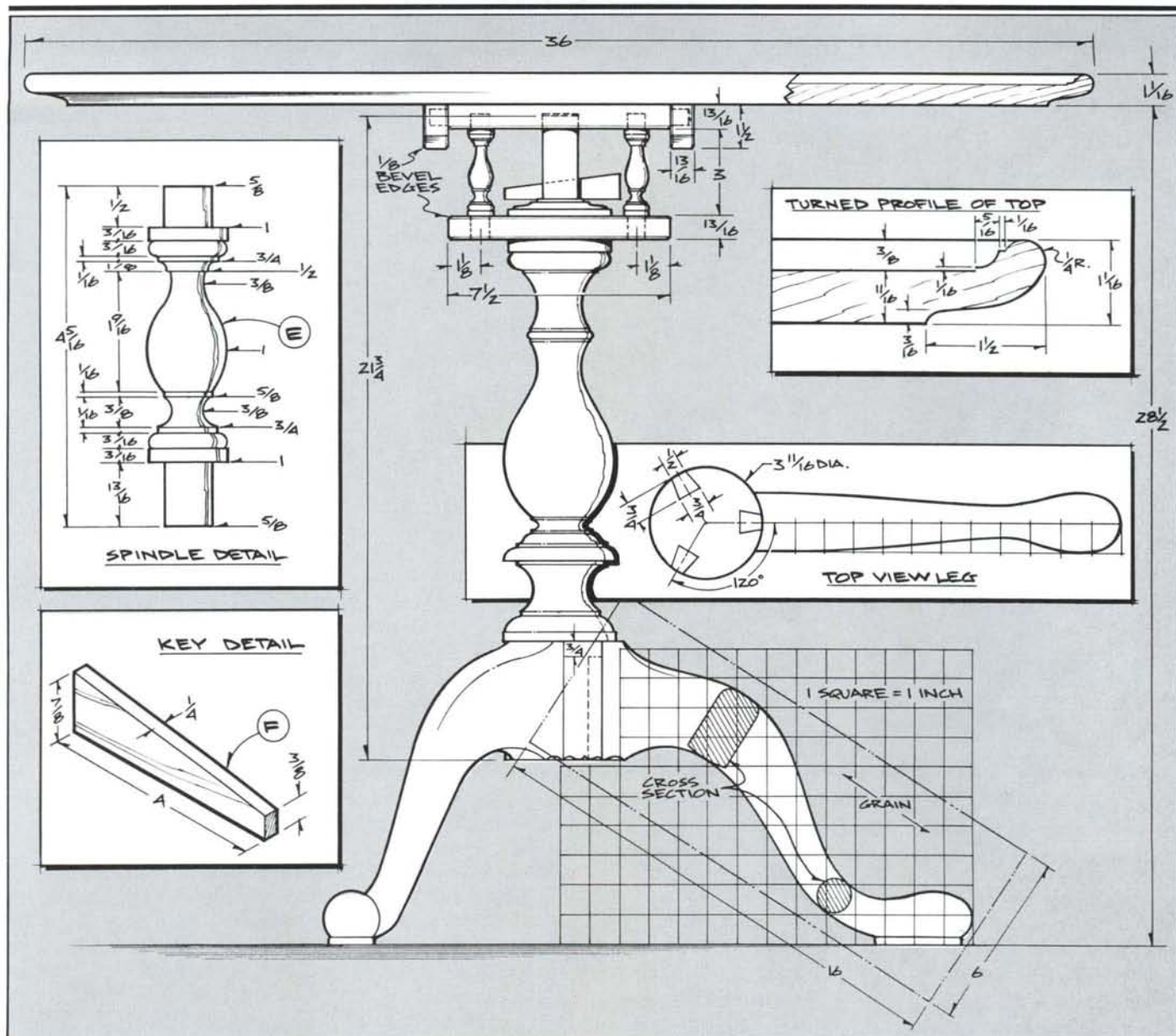
The tabletop with molded rim (A), known as a dish top, is glued up from wide mahogany planks and shaped on a lathe, as if it were a very large plate with a raised edge. The dish top can also be shaped by hand or with a router, though neither of these methods works as well as the lathe. We've included an alternate pattern for a flat top with a molded edge. Some tea tables from this period had flat tops, and the work saved in not shaping a dish top simplifies the project.

For either style of top, two cleats (B) are screwed under the top perpendicular to its grain. The cleats prevent cupping and are drilled to form the upper half of the tilting



18th- Century Tilt-Top Table

By Paula Garbarino



mechanism's hinge. The top rests on a contraption usually called a birdcage (also gallery or crow's nest), which consists of two horizontal squares (C, D) drilled through their centers and separated by four small turnings (E) — the pillars at each corner of the cage. The birdcage serves three functions. It completes the tilt-top hinge, allows the swivel action, and fastens the top to the pedestal. A wooden key (F), resting on a turned washer (G), locks the top and birdcage to the base. The base consists of an urn-shaped pedestal (H) with three legs (I). The legs are attached with dovetails that slide up into the pedestal from below.

Begin the project by drawing all the table parts, except the top and key, full size. Make patterns (out of stiff cardboard or 1/8 in. plywood) of the central pedestal, the cleats, the side profile of the leg, and the birdcage turnings. Also make a cross-sectional pattern of the table rim.

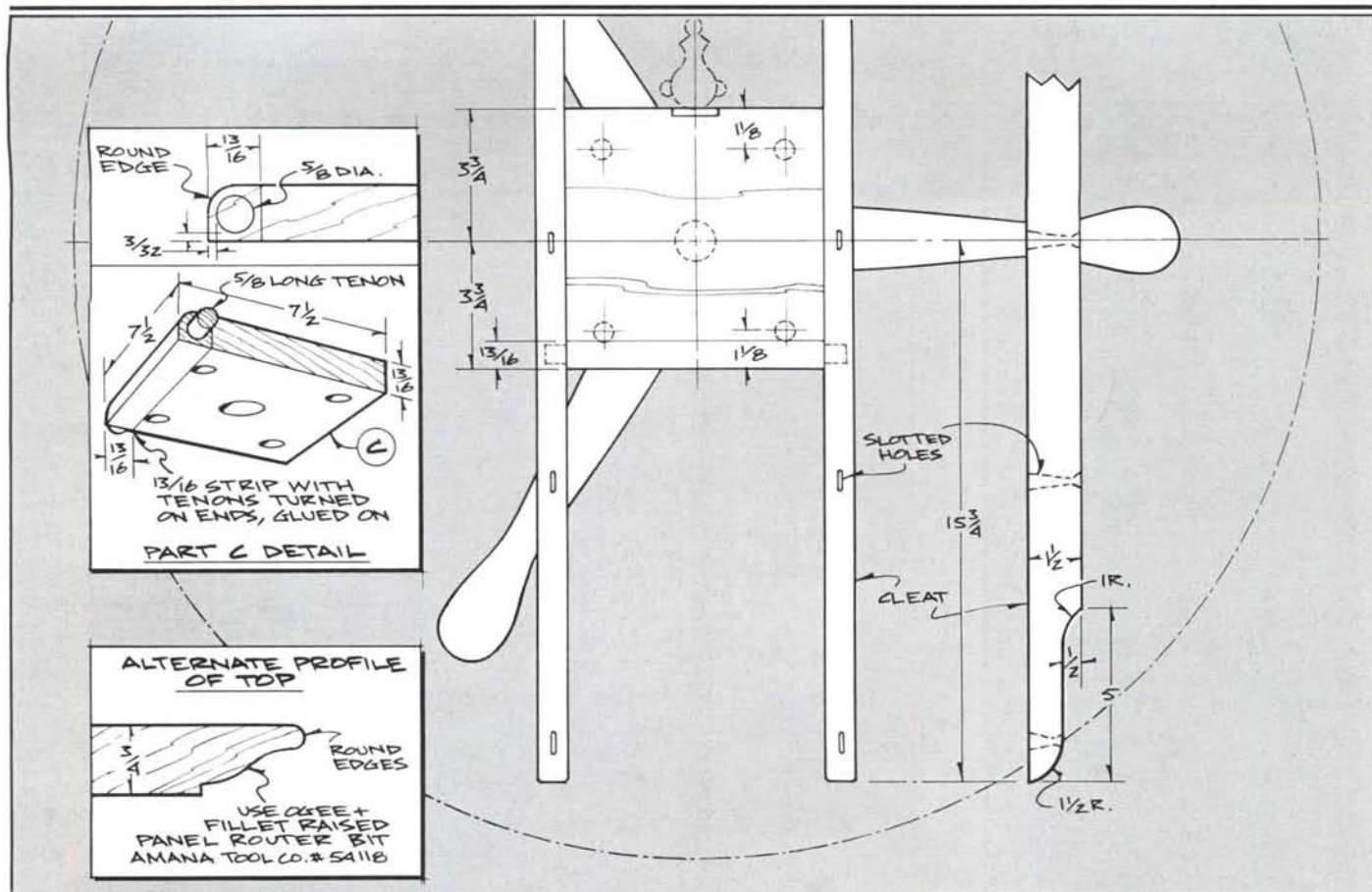
The 36 in. diameter dish top is turned outboard on the lathe. The larger a top is, the more vibration there will be when turning. A top this size requires an industrial lathe. The lathe should be bolted to the floor and wall. Additional diagonal bracing will further help subdue the vibrations. Because the turning is done outboard, it requires a free

standing tool rest designed for the purpose.

The boards for the top should be chosen for their beauty. The tilting top is a natural show-off, so ribbony, richly colored mahogany is desirable. To obtain the 37 in. width, join two 18 1/2 in. wide pieces or three pieces that are each about 12 1/2 in. wide. Assemble the pieces so that the wood at the joint matches well and disguises the seams. If possible, arrange the boards to carry the grain from one to the next.

After the glue-up, the approximately 37 in. by 37 in. square blank for the top should be planed flat on the underside and rough cut with a jigsaw or band saw to a circular shape. Before turning this mahogany circle you need to cut an additional 3/4 in. thick plywood circle (Baltic birch is good) with a diameter of about 24 in. The bigger this circle the better, for it helps to support the mahogany during turning. Screw the outboard faceplate to the center of this circle, attach it to the lathe, and flatten (using scraping tools only) the face of the plywood. Now, off the lathe but still attached to the faceplate, glue the planed side of the mahogany circle to the newly flattened plywood, sandwiching between the two a layer of kraft paper. Brown paper bags work well. Use

(continued on next page)



enough glue for a good glue joint, but don't saturate the paper or you will never get it cleanly apart. Clamp this up overnight leaving the outboard faceplate attached throughout. (If you take the plate off, it's not likely you'll be able to put it back in the same place.)

Turn the top at your slowest speed, but no more than 300 to 400 rpm. True up the edge with freshly sharpened scrapers, then shape the underside of the rim. Removing thickness from the underside gives the table edge a lighter, more delicate look. Move to the face or top side of the mahogany, shape the edge according to the pattern, then sand the entire rim, including the underside, up through 220 grit.

Next, hollow out the tabletop. Because so much wood is removed from one side only, the top tends to progressively cup as more and more of the wood is cleared out. You minimize this problem by working on only a 3 in. area at a time, starting at the rim and moving toward the center. The parting tool with a masking tape marker is used to establish depth of cut. Using either the parting tool or a gouge, with a scraping action only, clear the wood out back to the shaped rim, and then sand to 220 grit with sandpaper wrapped over a flat wood block. Move in another 3 in. and repeat. Watch that you don't cut below the previous area. If cupping occurs, do not retrace your steps. Any unevenness will have to be corrected later by clamping the top flat to your bench, and using a hand plane and cabinet scraper. When the turning is completed and the top is smoothed, take the top off the lathe and remove the plywood using a chisel as a wedge. Clamp the top flat on your work bench in order to scrape the paper from its underside, and keep it clamped flat to prevent warping while working on other parts of the table.

Historically, dish tops were also crafted by hand. You

Bill of Materials

(all dimensions actual)

Part	Description	Size	No. Req'd.
A	Top	$1\frac{1}{16} \times 36$ in. dia.*	1
B	Cleat	$\frac{13}{16} \times 1\frac{1}{2} \times 31\frac{1}{2}$	2
C	Birdcage Top	$\frac{13}{16} \times 7\frac{1}{2} \times 8\frac{3}{4}$ **	1
D	Birdcage Bottom	$\frac{13}{16} \times 7\frac{1}{2} \times 7\frac{1}{2}$	1
E	Spindle	see spindle detail***	4
F	Key	$\frac{1}{4} \times \frac{7}{8} \times 4$	1
G	Washer	see washer detail***	1
H	Pedestal	see pedestal detail***	1
I	Leg	see leg detail***	3
J	Catch	3 in. long****	1

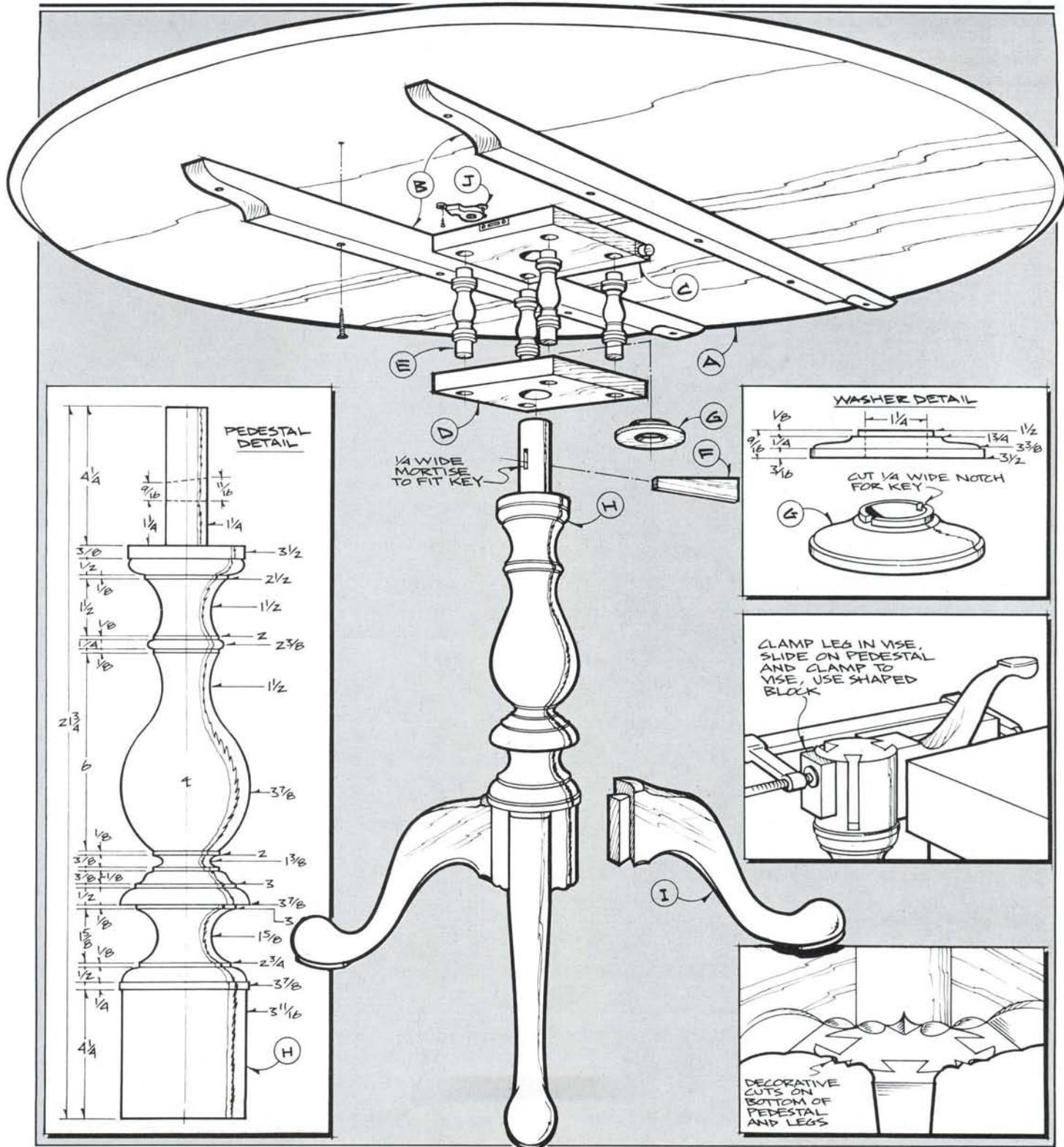
*Alternate top thickness is $\frac{3}{4}$ in.

**Length includes dowel pins.

***Turning blanks for spindles measure $1 \times 1 \times 4\frac{5}{16}$, turning blank for pedestal measures $4 \times 4 \times 21\frac{1}{4}$, turning blank for washer measures $\frac{9}{16}$ thick $\times 4\frac{1}{2}$ diam., leg blanks measure $2 \times 6 \times 16$.

****Available from Horton Brasses, Nooks Hill Rd., P.O. Box 95, Cromwell, CT 06416. Order part no. H-43.

could even use the router, although with both these methods you are likely to encounter the same cupping tendency as with the turning method. Our alternate pattern uses a flat top and a panel raising router bit to create an elegant top without the fuss. The panel raising bit, part no. 54118, is available from the Amana Tool Company, 1250 Brunswick Avenue, Far Rockaway, NY 11691. If you select the alternate top, and use the panel raising bit that we show in the alternate top profile detail, you'll need to round the edges of the tabletop



perimeter, as shown.

The central pedestal (H) is made from a 4 in. by 4 in. by 21 $\frac{3}{4}$ in. turning block. Mount this block in your lathe and mark the position to allow for identical remounting when needed. The upper end of the pedestal should be turned to loosely fit a sample 1 $\frac{1}{4}$ in. hole drilled in a scrap piece. The cylinder at the lower end of the pedestal must be turned very straight for a good leg fit. Check it with a straightedge. Note the $\frac{3}{32}$ in. step above the leg, which covers the top of the leg and hides any discrepancy in its fit. After turning the rest of

the pedestal shape, mark out the leg placement by dividing the circle on the underside of the pedestal into thirds. Draw three equally spaced lines from the circumference to the circle center. These lines will later match up with the center lines drawn on the legs. These operations are covered in depth in the Special Techniques article on page 17. Aesthetically, it is most pleasing if you mark out leg placement so that the grain bull's-eye (the concentric circles formed by the annular rings) of the pedestal is centered between two of the legs on one

(continued on next page)

side, and centered on the third leg on the opposite side.

The legs may either be cut from 2 in. stock or resawn from 4 in. stock. The latter choice results in an extra leg which is useful for practice. Refer to the Special Techniques article for detailed instructions on how to lay out and shape the legs, and how to lay out and cut both the leg dovetails and the corresponding mortises in the pedestal.

With the legs and pedestal now substantially complete, you can go to work on the remaining details. For the birdcage, make four matching spindle turnings with dowel ends



(see spindle detail) that snugly fit $\frac{5}{8}$ in. diameter test holes. The turnings must be the same length from shoulder to shoulder. Now cut the top (C) and bottom (D) of the birdcage. Both the top and bottom sections of the birdcage appear to measure $7\frac{1}{2}$ in. square, but the top piece is actually longer. It includes the two $\frac{5}{8}$ in. diameter by $\frac{5}{8}$ in. long dowel pins that are turned on either end and that fit into the cleats mounted to the tilting top. Also, this top piece must start out at $7\frac{5}{8}$ in. wide to allow for the $\frac{1}{8}$ in. kerf when it is resawn to form the section that includes the dowel pins. Cut off the $1\frac{1}{16}$ in. wide strip, turn the dowel pin tenons on either end, and then glue the strip back into place. The dowel pins are centered across the thickness of part C and are $\frac{3}{32}$ in. from the edge (see part C detail). Also, the top edge of part C between the pins must be planed to a curve concentric to the pins. This allows for clearance when the tabletop is pivoted. Clamp or pin the top and bottom (C and D) together, and

drill through both at once at $\frac{5}{8}$ in. diameter for the four spindle turnings and at $1\frac{1}{4}$ in. for the pedestal. Note that the holes in the birdcage top for the spindle turnings and pedestal are $\frac{1}{2}$ in. deep. Forstner bits are best for these holes. The birdcage can now be assembled.

Once more, return the pedestal to the lathe. With the pencil jig (see Special Techniques, step 10 for this jig), scribe for the $\frac{1}{4}$ in. wide through mortise to accept the key (F). Outline the ends of the key mortise slot on opposite sides of the pedestal. Note that the slot outline is longer on one side because the key is tapered. The dimensions for the key mortise are shown on the detail of the pedestal. Drill to the pedestal center from each side with a drill bit smaller than $\frac{1}{4}$ in. Then clear out with a chisel to the pencil line. Make the key just slightly under $\frac{1}{4}$ in. thick and fit it to the mortise.

The key holds the top to the pedestal, and the wooden washer (G) below it prevents the key from scratching up the birdcage. To make this washer, rough cut both a $\frac{9}{16}$ in. thick by $4\frac{1}{2}$ in. diameter disk of mahogany and a $\frac{3}{4}$ in. thick by 5 in. diameter plywood backing piece. Glue these together using kraft paper in between (keep it clamped overnight), and mount on the lathe faceplate. Turn a flattened donut shape whose center hole loosely fits the upper cylinder of the pedestal. Notch the raised edge around the hole to receive the key (see washer detail).

The cleats (B) are the last item to make. Drill the inner sides of the cleats to receive the dowel pivots on the ends of part C. Also, drill and countersink for the screws that will attach the cleats to the top. To allow for wood movement, all but the center screw holes are enlarged into slots about $\frac{5}{16}$ in. long at the end adjacent to the tabletop. Screws put in this way are sometimes called "sloppy screws." Use the birdcage to determine the placement of the cleats, clamp the cleats to the top, and drill *very carefully* for those screws. Use a stop or a piece of tape on the drill bit to insure proper depth. It would be a shame to miscalculate at this point and poke through the top.

Attach one cleat, slide the birdcage into place, and attach the second cleat. To keep the top horizontal when the table is in use, the top latches to the birdcage with a teardrop-shaped brass catch (J). The catch (available through Horton Brasses, see Bill of Materials) is screwed to the underside of the table, and the latch plate is mortised into the birdcage top.

Finally, now that all cutting and fitting work is done, the legs may be glued onto the pedestal. It's easiest to glue each leg on one at a time. Clamp a leg in the bench vise, and then slide the pedestal up onto the dovetail. As shown in the clamping detail, a concave clamping block shaped to fit the curve of the pedestal can be used with a bar clamp to achieve a tight joint. The block should be narrow enough to fit the space between the legs, and you may need to reposition the bar clamp in order to clamp the second and third legs in place.

Once the legs are attached, use a rasp and a file to shape the top of the legs to match the curve of the pedestal. Then shape the bottom of the pedestal, between the legs, to the decorative shape shown. As the illustration shows, this detail is simply a little scalloping into the edges.

To finish, seal with shellac (shellac keeps the filler from coloring the wood), fill the pores with colored filler, seal again (the sealer keeps the filler from getting muddy), and complete with several coats of shellac or oil varnish. Be sure the filler you select matches the color of the wood. You may need to mix several colors to achieve the right shade. 

This toy fishing trawler promises hours of fun for the child lucky enough to receive it. With no batteries to run down, or cassette tape to tire of, oceans of discovery await the young adventurer who steers a course from this helm.

Woodworker Dennis Preston suggests using white or sugar pine. He also notes that following the exact profile of the hull shown in the pattern is not essential, but symmetry of the hull from one side to the other is important. Be sure to use waterproof glue for all glue joints.

To begin, lay out the hull (A) pattern on $\frac{3}{4}$ stock, which should measure $1\frac{3}{4}$ in. thick. Also, on $\frac{3}{4}$ in. thick stock, lay out the profiles of the stern and bow railings (B, C, and D). Draw a center line down the center of the hull, both top and bottom.

Now cut out the hull and railings using a band saw. Sand and shape the inside surfaces of the rails at this time, since they'll be difficult to reach later.

Next, glue the rails on one at a time. Note that the bow railings are each offset $\frac{1}{4}$ in. The dotted offset lines shown on the patterns should serve as a guide when positioning these parts. First, glue the lower railing in position, offset $\frac{1}{4}$ in. over the edge of the hull, then add the upper railing, offset $\frac{1}{4}$ in. over the railing below. This stepped effect will allow you to smooth the tapered contour of the hull so that the bow railings continue the flared shape of the hull above the deck line. The stern railings are glued up flush with the edge of the hull, and rounded over to form a gentle return at the back of the trawler, as shown in the side elevation.

Now shape the hull. A spokeshave or rasp is useful here. Don't be too concerned with detail, just make sure that both sides are equal. Do not cut away the center line, which serves as your guide. When viewed from the side, the profile of the trawler should look similar to the side view illustrated. When you are satisfied with the shape of the hull, use the belt sander to smooth the contours and remove the marks left by the spokeshave or rasp.

Next, cut the winch block (E), winch drum (F), mast (G), boom (H), hatch cover (I), and pilothouse sides (J) and roof (K). The winch drum and mast are $\frac{1}{2}$ in. diameter dowel, while the boom is $\frac{3}{8}$ in. diameter dowel.

To make the hatch cover, cut a piece of white pine to the dimensions shown,

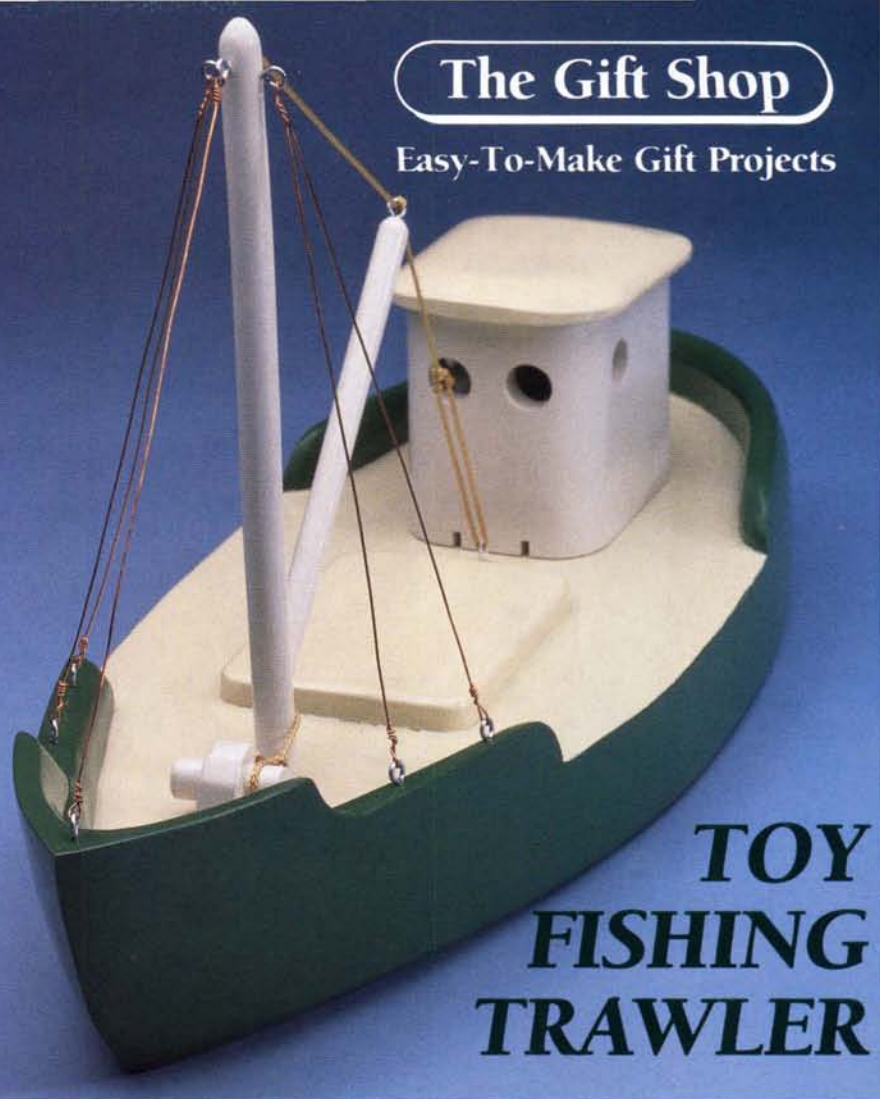
apply a $\frac{3}{8}$ in. radius to the corners, and gently round the edges. The winch block is a scrap of $\frac{1}{2}$ in. thick pine, shaped as shown with a $\frac{1}{2}$ in. diameter hole for the winch drum dowel drilled through the side.

The pilothouse box is made of four pieces of wood that are all the same size. Cut the four $\frac{1}{2}$ in. thick by $2\frac{5}{8}$ in. wide by $3\frac{1}{8}$ in. long pieces, and drill through them with a $\frac{3}{8}$ in. diameter Forstner bit at the locations shown to establish the portholes. Be sure to back up these holes to prevent splintering. Also, use the table saw to establish the scupper slots in the front and back of the pilothouse, as indicated in the elevations. These scupper slots allow water to drain out of the pilothouse. Now assemble the four sides.

In order to establish the slope of the pilothouse roof, set the band saw miter gauge at 5 degrees, lay the pilothouse on its side, and cut the slope on the top end of the house. Also, round the corners of the pilothouse, as shown. Next, shape the pilothouse roof, rounding the corners and sanding a bevel all

The Gift Shop

Easy-To-Make Gift Projects



TOY FISHING TRAWLER

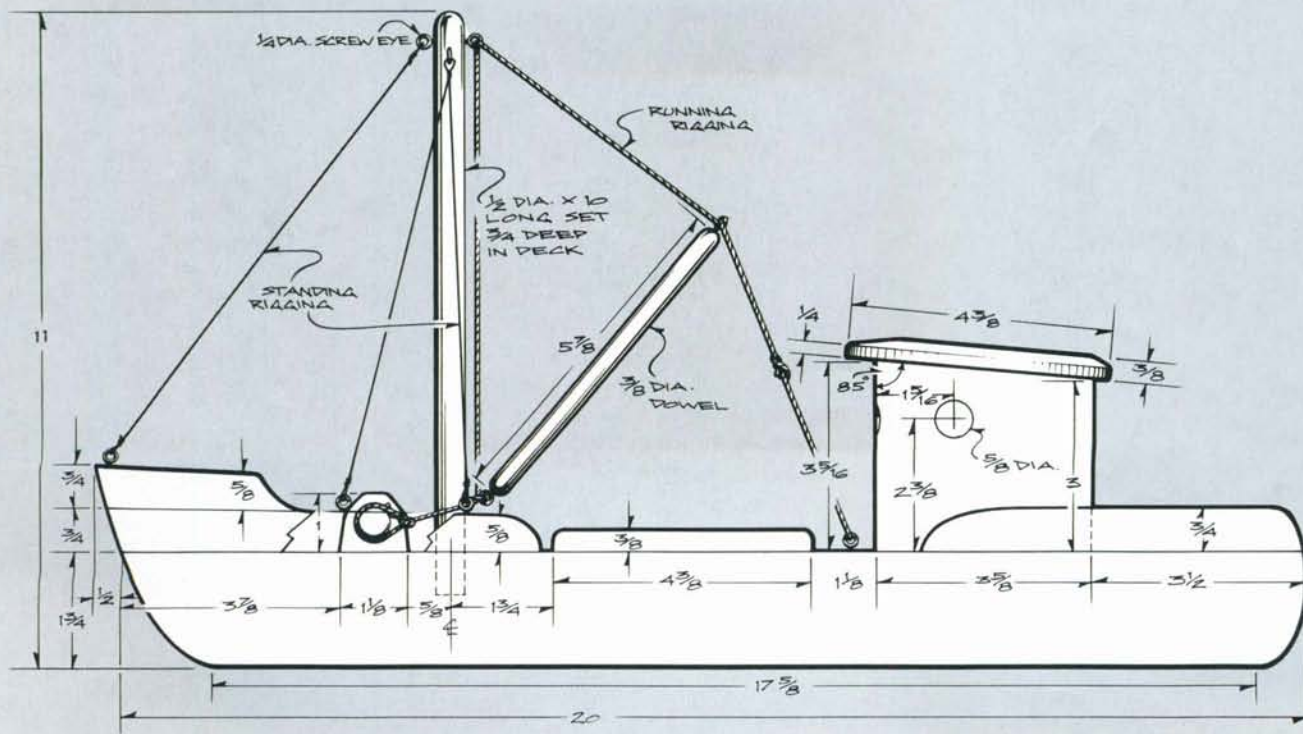
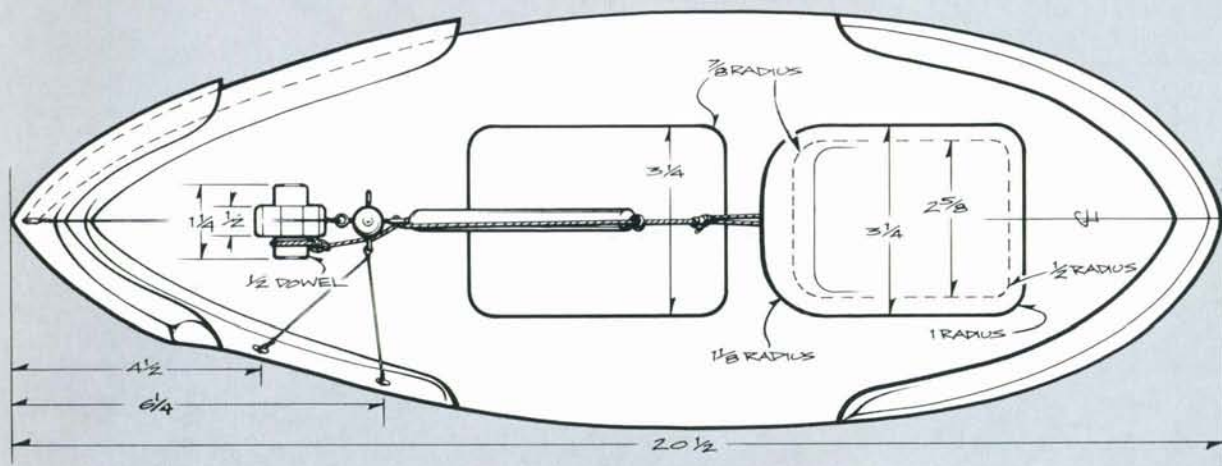
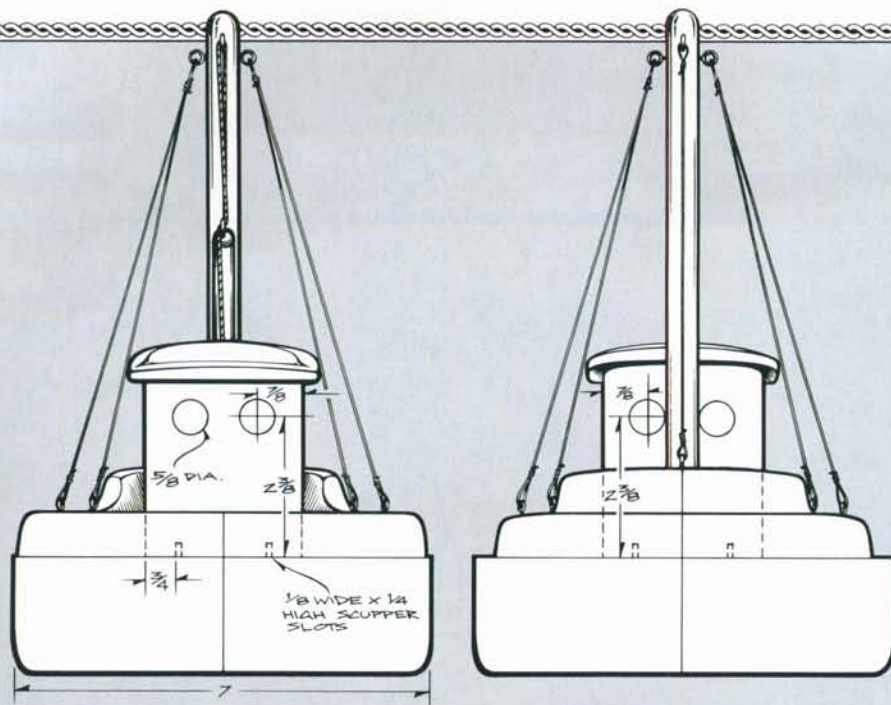
around the top edge.

At this point, assemble the winch block and drum, and paint them, the mast and boom, and the pilothouse box white. We used exterior oil-base paint. Mount the hatch cover to the deck, and paint the deck and hatch cover, and the pilothouse top off-white. The rest of the hull and the railings are all painted green.

Next, drill dowel holes in the deck for the mast, and in the pilothouse, the deck and the pilothouse top for the dowels that assemble the roof to the pilothouse, and the pilothouse to the deck. Also glue the winch in place. You'll need to scrape a little paint off the deck where the winch mounts to get a good glue joint.

Screw eyes mounted in the railings and mast serve as anchors for the standing rigging, which is simply three lengths of 20 gauge copper wire. Screw eyes also mount the boom to the mast, and act as anchors for the running rigging, which is a length of light, braided nylon cord.

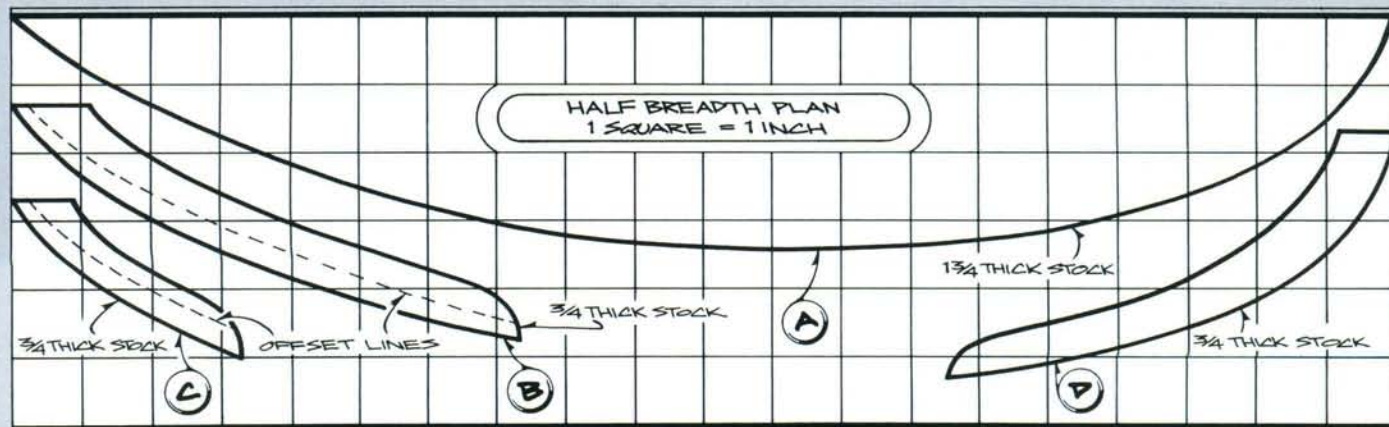
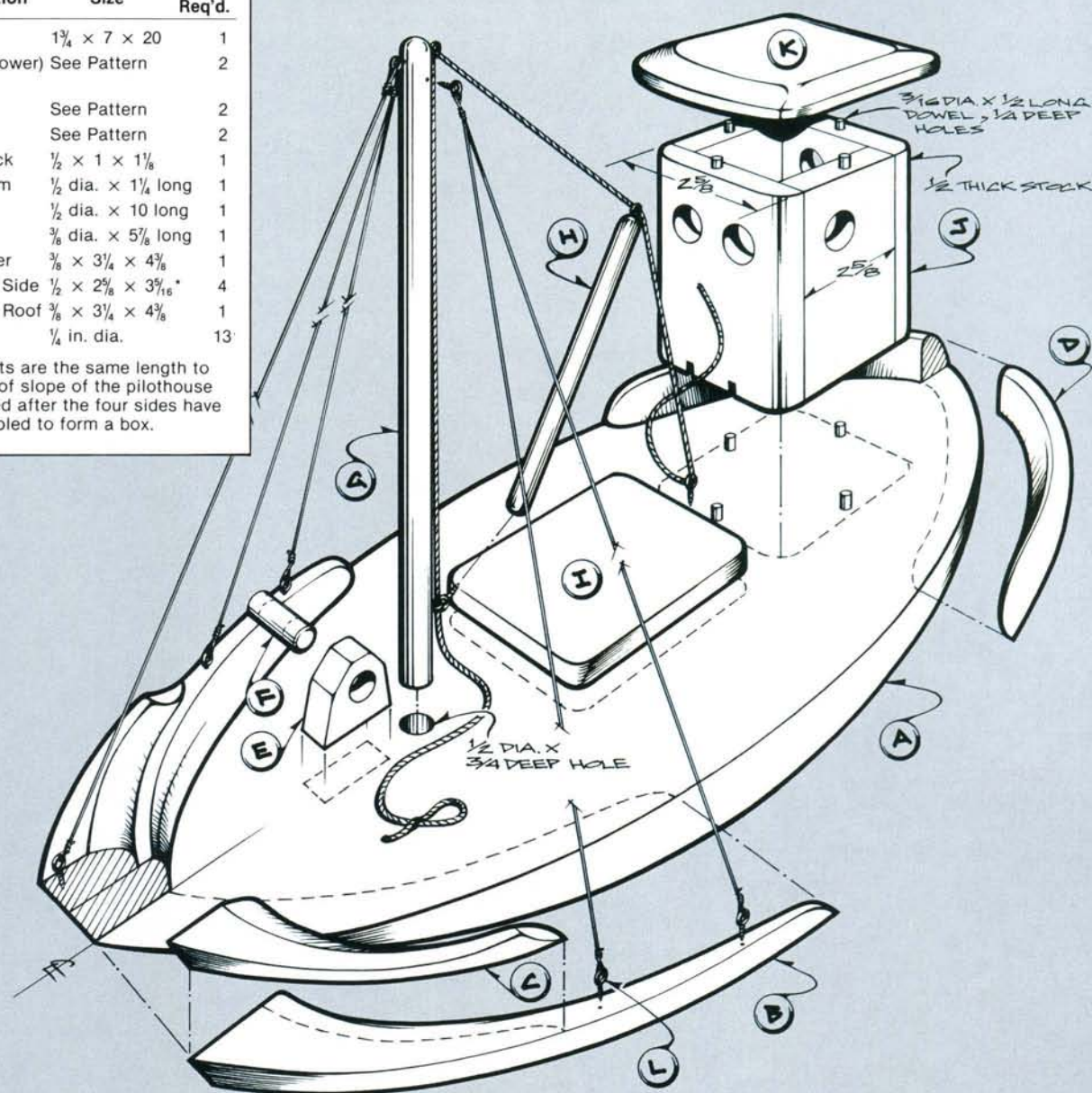
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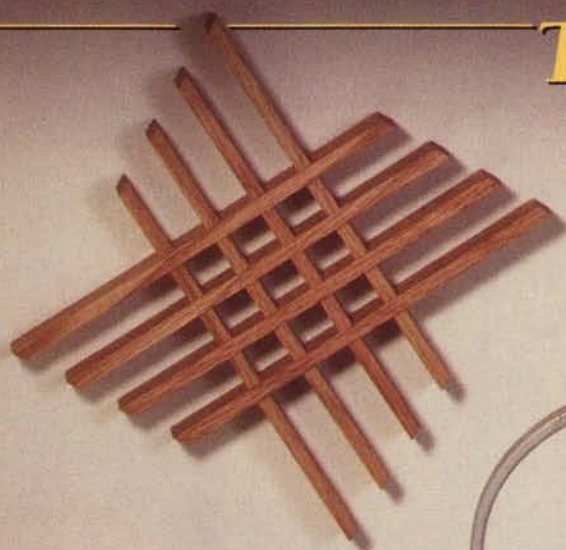
Bill of Materials
(all dimensions actual)

Part	Description	Size	No. Req'd.
A	Hull	1 3/4 x 7 x 20	1
B	Bow Rail (lower)	See Pattern	2
C	Bow Rail (upper)	See Pattern	2
D	Stern Rail	See Pattern	2
E	Winch Block	1/2 x 1 x 1 1/8	1
F	Winch Drum	1/2 dia. x 1 1/4 long	1
G	Mast	1/2 dia. x 10 long	1
H	Boom	3/8 dia. x 5 7/8 long	1
I	Hatch Cover	3/8 x 3 3/4 x 4 3/8	1
J	Pilothouse Side	1/2 x 2 5/8 x 3 5/16 *	4
K	Pilothouse Roof	3/8 x 3 3/4 x 4 3/8	1
L	Screw Eye	1/4 in. dia.	13

*The side parts are the same length to start. The roof slope of the pilothouse is established after the four sides have been assembled to form a box.



TWO TRIVETS



The Gift Shop

A panful of bacon sizzles and pops, while a kettle whistles and a pot of porridge bubbles. The pancakes need turning, that whistle must stop. You're one hand short, and what's missing is the trivet.

These trivets aren't the whole answer to your morning madness, but they will fix one headache. Designed by Brad and Sandy Smith of Worcester, Pennsylvania, the trivets give you a place to put hot pots, and they look good doing it.

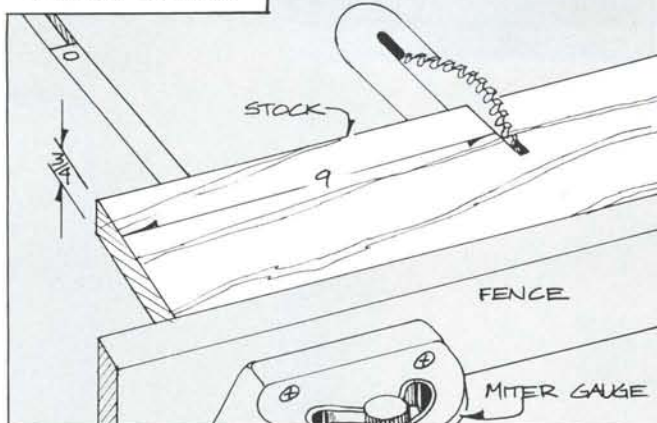
The oak slats are held together with half-lap joints, which are cut on the table saw. You use a dado blade with a stopblock attached to the miter-gauge fence. The tricky part of the operation is cutting the outer profile once the trivets are assembled.

To cut the angled profile of the second trivet, it's best to use the table saw with the miter gauge set at an angle. For the trivet with a circular profile, use the band saw with a circle cutting jig. The jig is just an L-shaped piece of particleboard that's clamped to the saw table. A screw and block hold the trivet to the particleboard at the desired radius, and you simply turn the trivet through the saw blade.

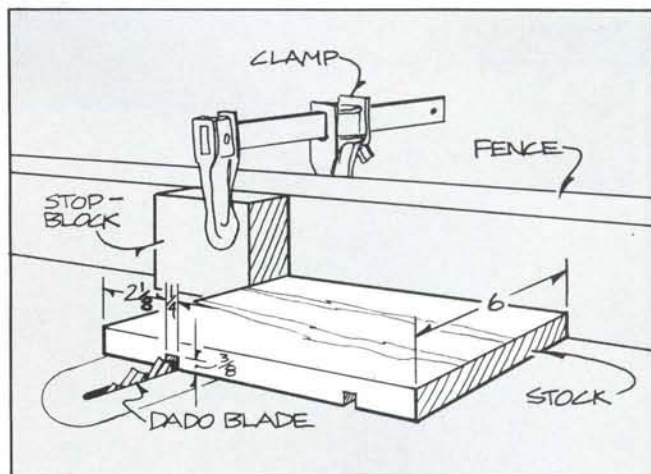
The trivets are left unfinished, but a good sanding of the parts before assembly will enhance their looks. It also helps to use a planer blade or another smooth cutting blade when ripping the slats. Note that too much sanding of the slat sides will prevent the lap joints from fitting properly.



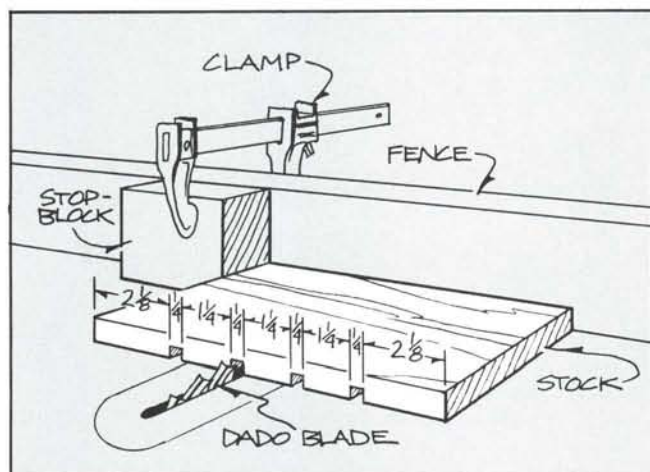
Circle Trivet



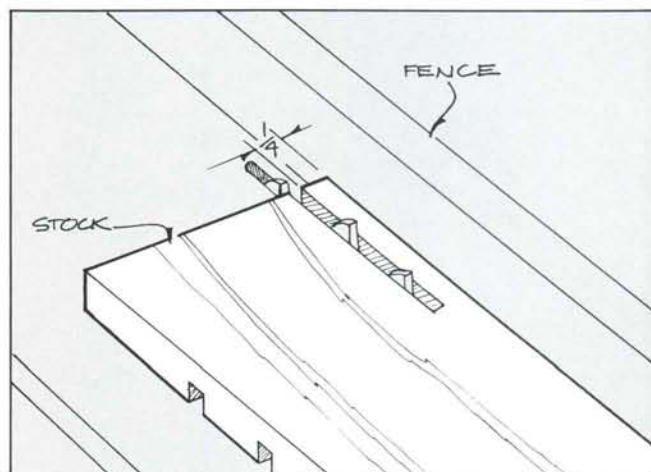
Step 1: Rip and crosscut $\frac{3}{4}$ in. thick oak to 6 in. wide and 9 in. long.



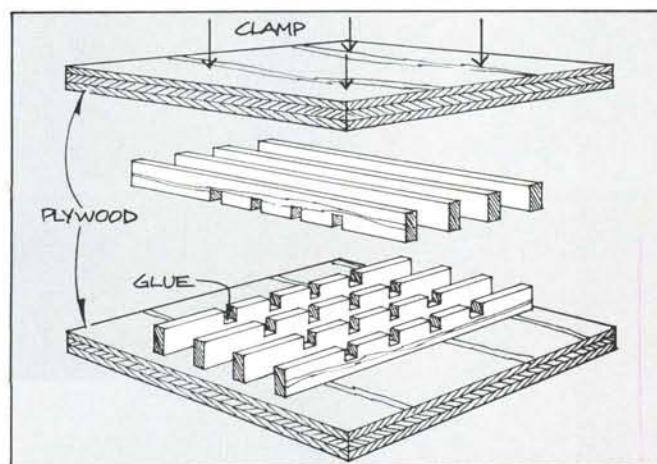
Step 2: Using a dado blade and a stopblock set $2\frac{1}{8}$ in. from the blade, cut $\frac{1}{4}$ in. wide dados on each end of the workpiece. Set the $\frac{3}{8}$ in. dado height carefully and make test cuts in scrap.



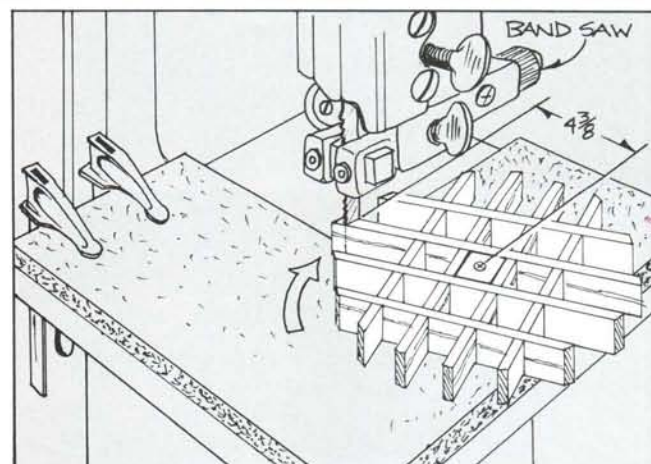
Step 3: Reset the stopblock $3\frac{3}{8}$ in. from the blade and cut the other two dados.



Step 4: Rip eight $\frac{1}{4}$ in. thick slats from the oak board, which is wider than needed for safety. Use a pushstick. Make test cuts to make sure the slats fit snugly in the already cut dados.

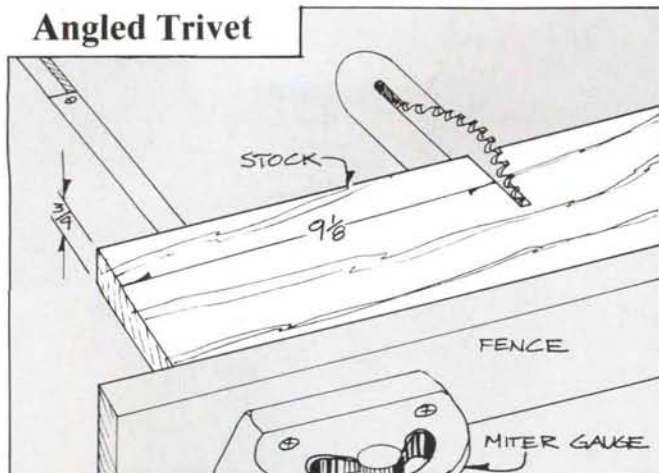


Step 5: Sand the slats with a sanding block and dry-fit the pieces to make sure they fit together snugly. Then glue and clamp the assembly, using plywood clamp blocks to help apply even pressure.

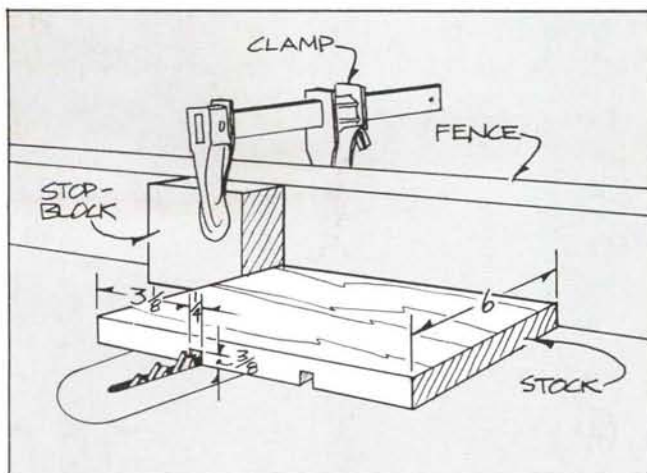


Step 6: Use a circle cutting jig to cut the profile on the trivet perimeter. Fit a block into the center of the trivet so you can turn it around the screw or dowel in the center.
(continued on next page)

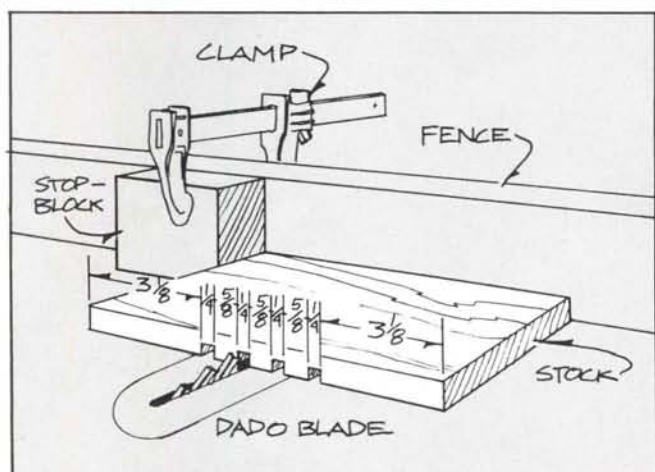
Angled Trivet



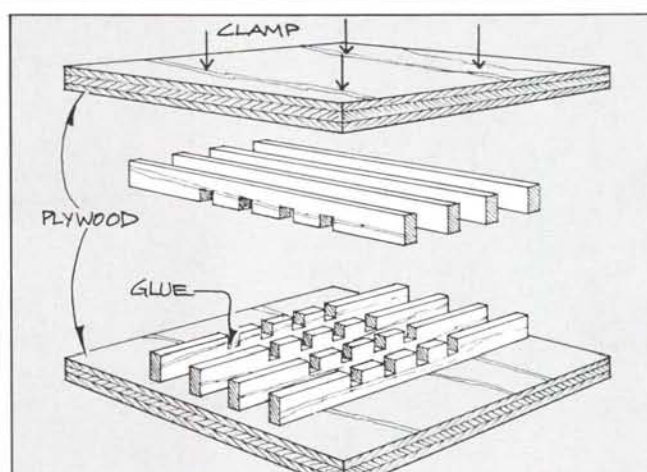
Step 1: Rip and crosscut $\frac{3}{4}$ in. thick oak to 6 in. wide and $9\frac{1}{8}$ in. long.



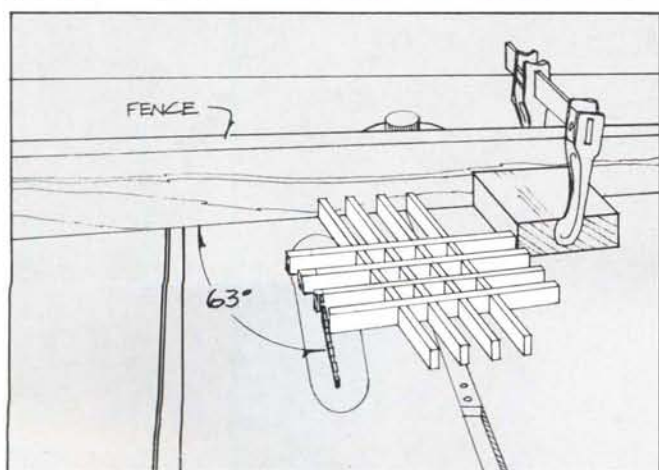
Step 2: Using a dado blade and a stopblock set $3\frac{1}{8}$ in. from the blade, cut $\frac{1}{4}$ in. wide dadoes in the workpiece. Make one cut, and then turn the workpiece around for the second cut.



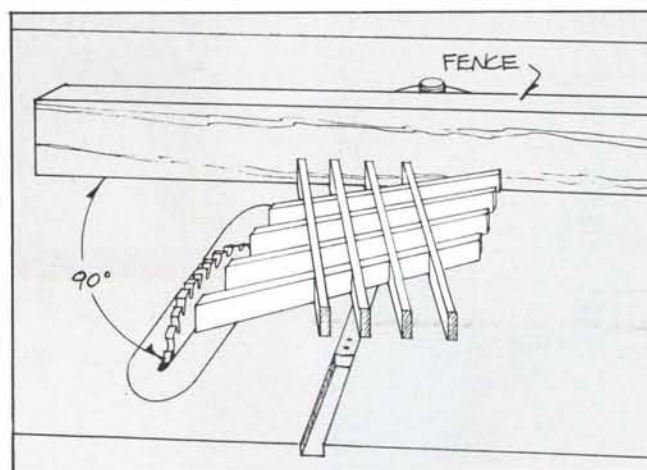
Step 3: Reset the stopblock 4 in. from the blade and establish the other two dadoes. Then rip the workpiece into eight $\frac{1}{4}$ in. slats, making test cuts to insure they fit snugly into the dadoes.



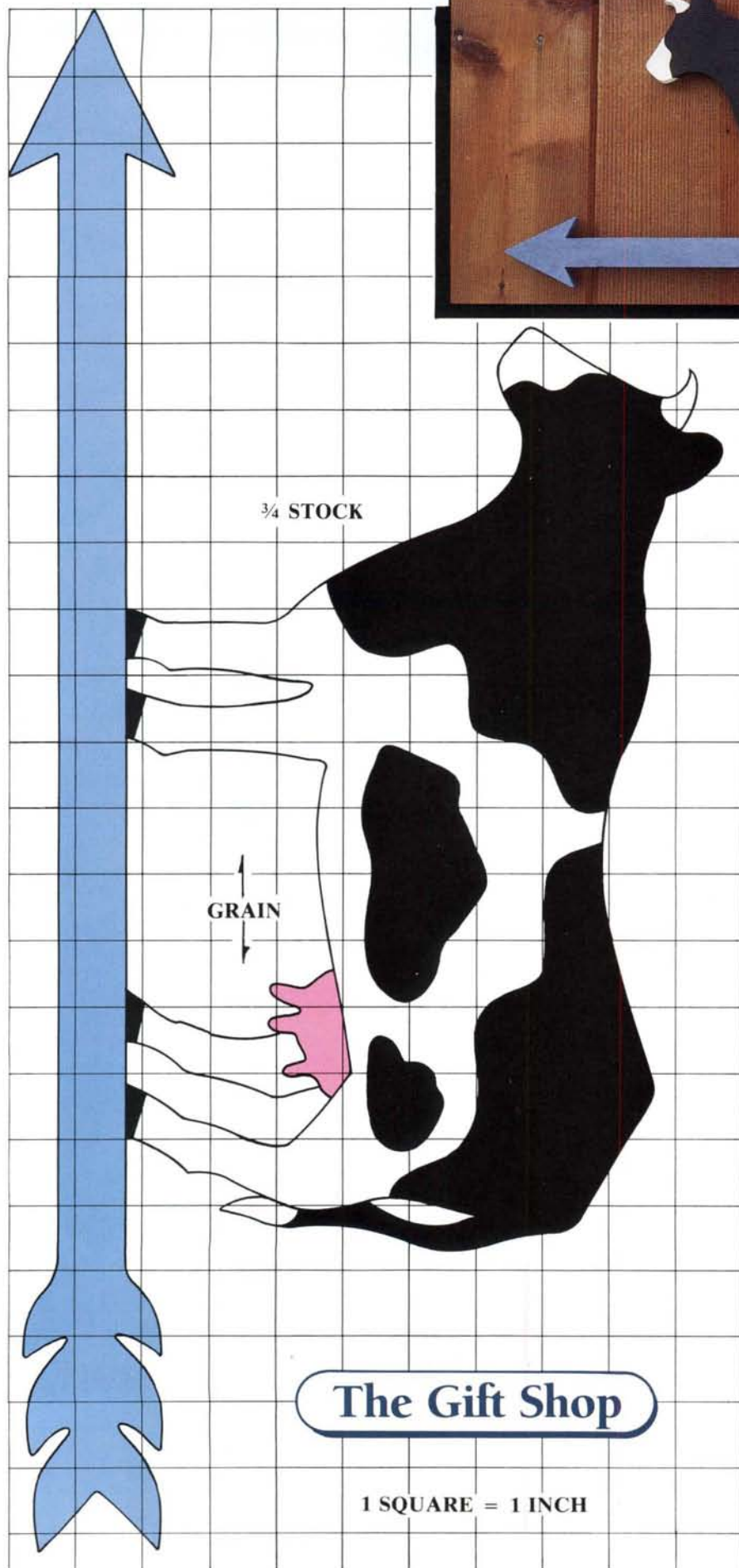
Step 4: Sand the slats with a sanding block to remove the saw marks. Then glue and clamp the assembly, using plywood clamping blocks to help apply even pressure.



Step 5: Clamp a stopblock to the miter gauge fence and set the miter gauge to a 63-degree angle. Cut two opposite sides of the trivet at that setting.



Step 6: Reset the miter gauge at 90 degrees and cut the other two sides of the trivet. Rest the previously cut sides against the fence.



The Gift Shop

1 SQUARE = 1 INCH



Folk-Art Cow

This easy gift idea can fill up shop time while you're waiting for the glue to dry on a more elaborate project. There are only two pieces of wood, the Holstein cow and the arrow, that are glued together below the hooves. Use the grid pattern system explained in *Woodworking Basics* on page 14 to enlarge the drawing to full-size. Then transfer the pattern to $\frac{3}{4}$ in. thick pine and cut out the profiles. File and sand the edges smooth. Glue the pieces together using gentle pressure.

To paint the cow, first apply a base coat of flat white latex. Then add the black, light blue and pink enamels on top of the base, using our pattern as a guide.

Attach the ornament to the wall using a sawtooth picture hanger screwed to the back of the cow. The hanger should be at the balance point of the piece so it can rest on a finish nail in the wall.





Greek Revival BIRDHOUSE

The Greek temple design of this birdhouse may not appeal to every bird, but after all, there are plenty of barns for the swallows of the world. This house seems to cry out for an owner with a certain style and color, perhaps an oriole or a bluebird.

Start by cutting $\frac{3}{4}$ in. pine for the base (B) and $\frac{1}{2}$ in. pine for the box parts (C, D, E and F). Note the $\frac{1}{4}$ in. by $\frac{3}{8}$ in. rabbet cut all around the base that forms a step. Cut the top (A) to rough size from $\frac{3}{4}$ stock. Cut the dowel pillars (H) to a bit less than the 7 in. dimension given in the Bill of Materials. Cutting them slightly short insures that they won't bottom out when you put the house together. Also drill the holes for the pillars.

Next, shape the pitched roof to a 10-degree angle from the $\frac{3}{4}$ pine. Lay out the roof lines as shown and saw or plane down to the lines. A band saw is the easiest way to cut the roof, but if you don't have one — or yours won't handle the depth of cut — you can also use a hand plane. The pine planes easily so you should make quick work of the roof.

After shaping the roof pitch, cut the grooves on all four sides with the table saw. Set the blade $\frac{1}{8}$ in. high and $\frac{1}{8}$ in. away from the rip fence. Cut on the end grain first so any chip-out will be removed by the subsequent cuts. Also attach the cleats (G) to the top, measuring for their location.

Now bore the entrance hole in the front and assemble the box. Refer to the chart for hole sizes. Note that some birds, like the robin, dove and phoebe, prefer an open side rather than a hole.

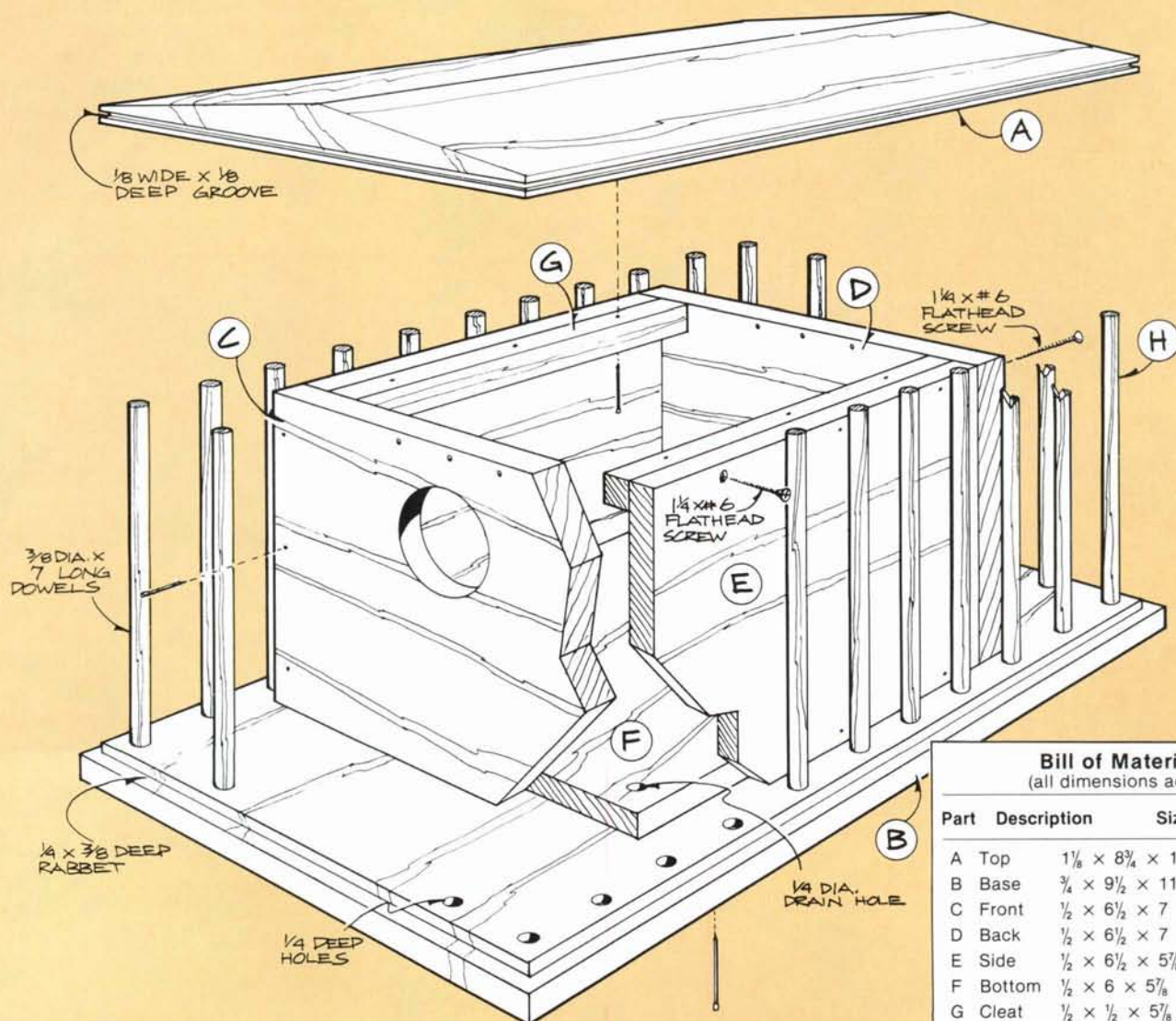
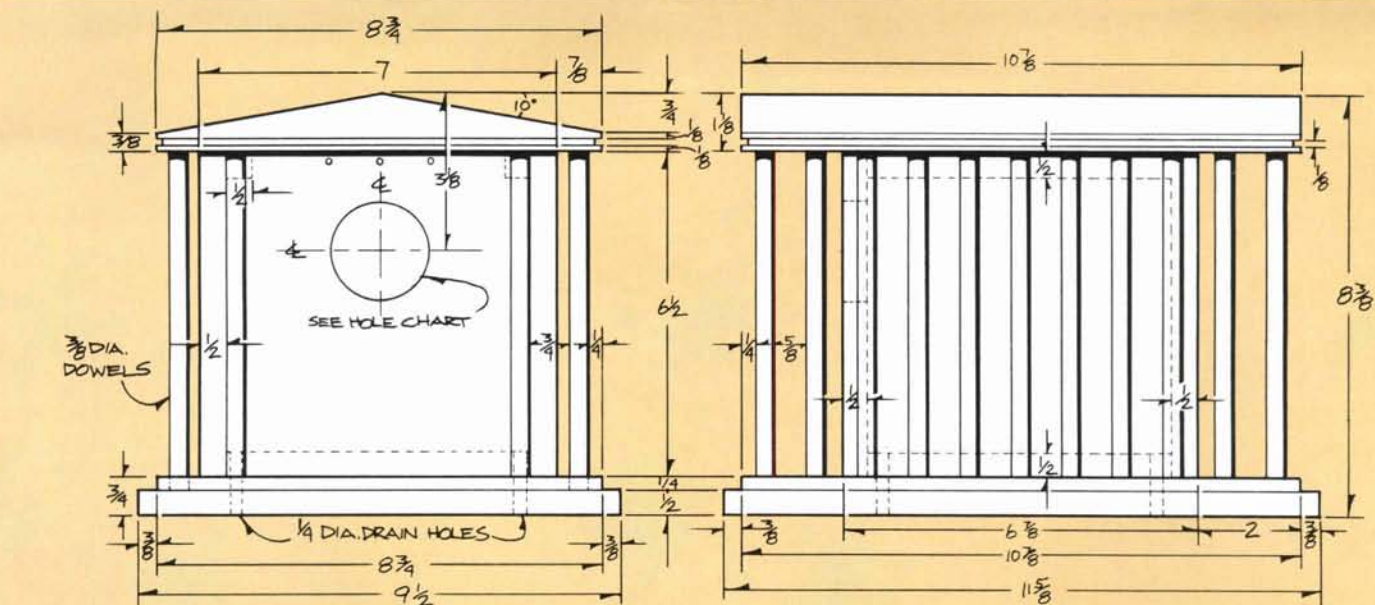
Next, paint the box and all the parts. We used antique white exterior paint. You can paint right to the ends of the dowels, if you wish, because they won't be glued into their holes. The house is held together by nails and screws, so the dowels aren't a structural element. You should use two or three coats of paint.

After the paint dries, assemble the box. First nail on the bottom and then fit the dowels in place. Insert the dowels one by one while holding the top in place. When all the dowels are in, screw the sides to the cleats underneath the top.

The birdhouse is attached to a 1 in. inside diameter steel pipe with a steel flange. The pipe and flange are available at building supply stores. To mount the birdhouse outside, bury the pipe about 2 ft. deep. The height can vary, but should be far enough above the ground to discourage squirrels and other animals.

Birdhouse Chart

Species	Entrance Diameter	Height Above Ground
Bluebird	1½	5-12 ft.
Chickadee	1⅝	6-15 ft.
Titmouse	1¾	6-15 ft.
Nuthatch	1¾	12-20 ft.
House Wren	1	6-10 ft.
Tree Swallow	1½	10-15 ft.
Purple Martin	2½	15-20 ft.
Great Crested Flycatcher	2	8-20 ft.
Downy Woodpecker	1¾	6-20 ft.
Robin	—	6-15 ft.
Dove	—	6-12 ft.
Phoebe	—	8-12 ft.



Bill of Materials
(all dimensions actual)

Part	Description	Size	No. Req'd.
A	Top	1 1/8 x 8 3/4 x 10 7/8	1
B	Base	3/4 x 9 1/2 x 11 5/8	1
C	Front	1/2 x 6 1/2 x 7	1
D	Back	1/2 x 6 1/2 x 7	1
E	Side	1/2 x 6 1/2 x 5 7/8	2
F	Bottom	1/2 x 6 x 5 7/8	1
G	Cleat	1/2 x 1/2 x 5 7/8	2
H	Pillar	3/8 dia. x 7 in. dowel	26

ALDER PINE ARMOIRE

This Pine Armoire may seem challenging at first, but it's really a straightforward case piece. Don't let the large size deter you. When you're finished, you'll have a men's armoire that is the perfect spot for all those sports jackets and sweaters that never seem to have a place to go.

As shown, the armoire won't accommodate women's dresses. If you want to use it for women's clothes, you can eliminate the drawers or the top shelf. Or you can build it with both drawers on the same side, creating a short side for men's jackets and a long side for women's dresses. Armoires are essentially a large box, so you can pretty much do what you want with the inside. They even make an attractive entertainment center.

Note that when you build the ar-



moire you'll save yourself a lot of time by finishing the parts as you go along. Do the inside surfaces of the carcass before assembling it, the interior of the drawers before putting the bottoms in, and the door panels before assembling them. If you don't pre-finish these parts, it's very hard to get into all the corners and crevices with the finish, which is a faux pickled pine.

To begin, glue up all panels, shelves and sides from $\frac{3}{4}$ in. thick pine. Make the pieces slightly oversize and cut them down to exact size after gluing. When doing the glue-up, it's best to use some system to keep the board edges as flush as possible. You can use dowels, splines or just clamp waxed blocks across the boards when you clamp them together. The waxed blocks should be thick enough so they don't bend and follow the contour of the panel you're gluing. The wax just prevents glue from sticking to the blocks.

Gluing up the panels can be very time consuming as many woodworkers don't have enough clamps and space to do all the gluing at the same time. It will probably take several sessions. You can also buy pre-glued panels at many lumberyards.

After the panels are glued together, flatten the surfaces. You can plane them flat, but pine tears easily, so you may want to use a belt sander.

Next, cut all the rabbets and dados in the parts. The top (A) and shelves (C) fit into $\frac{3}{4}$ in. wide by $\frac{1}{4}$ in. deep rabbet and dado grooves cut into the sides (B). The drawer divider (E) fits into dados cut into the two lower shelves. The pine plywood back (F) fits into a $\frac{1}{4}$ in. wide by $\frac{1}{2}$ in. deep rabbet cut into the sides and the top. Make the apron (D), cutting the profile on a band saw or a scroll saw. You can also make the apron from three pieces of wood, gluing the foot pieces onto a 2 in. wide straight piece jointed smooth.

After machining the carcass parts, sand all the interior surfaces and apply

a coat of the latex paint finish. The procedure is described in the Finishing article on page 20. Assemble the armoire case with screws, and use glue in the dado and rabbet joints. Screw from the outside and countersink and plug the holes.

After assembly, put the carcass on its back and apply the filler strip (K) and the apron. Also make and attach the foot blocks (Y), each of which has a $\frac{3}{4}$ in. glide (Z). You'll need to scrape away a little of the paint on the inside surfaces so you have a good glue surface for the blocks.

Standing the armoire up again, attach the cleat blocks (G and H), which are ripped at a 45-degree angle to support the crown molding (I and J). The cleat blocks have slotted screw holes, as shown, to allow for the different rates of wood movement between the cleats and the sides. The sides expand and contract seasonally across the width. Use finish nails to attach the crown molding to the cleats. The molding can be purchased at most lumberyards. Cut the compound miters as shown in the detail. You need the mitered block for support as you run the molding through the saw at a 45-degree angle. If your table saw won't cut all the way through the molding in one pass, you can finish the cut with a dovetail saw.

Next, make the doors, which are straightforward stile and rail construction. The panels (O and P) are cut with a router table. We used a Freud panel-cutting bit, number 99-211. For the name of a dealer that carries the bit, contact Freud, 218 Feld Ave., High Point, NC 27264; (919) 434-3171.

Also note that when you make the stiles (L) and rails (M and N), you should cut all parts that are the same size at the same time. Use a router table to cut the $\frac{1}{4}$ in. wide grooves that hold the panels. Then use a drill press to form the $\frac{1}{4}$ in. wide by $\frac{3}{4}$ in. deep mortises for the rail tenons. Square up the mortises with a chisel. After the mor-

tises are made, cut the tenons to match. Use a table saw and a tenon jig. Cut the shoulder first with the workpiece on its side and then remove the waste with the workpiece held vertically. The tenon jig holds the workpiece securely as you run the end of the rail over the saw blade. It's a good idea to make a test tenon to make sure the actual pieces will fit properly.

We employed a pin system to hold the panels, which aren't glued, in the center of the oversized openings. That way the panels can float with the inevitable wood movement distributed equally to both sides. The pins are just $\frac{1}{8}$ in. diameter dowels or brass rods that fit into holes drilled into the center of the panels (top and bottom) and the rails. When assembling the doors, put the panels on the pins before fitting the stiles onto the rails.

(continued on next page)

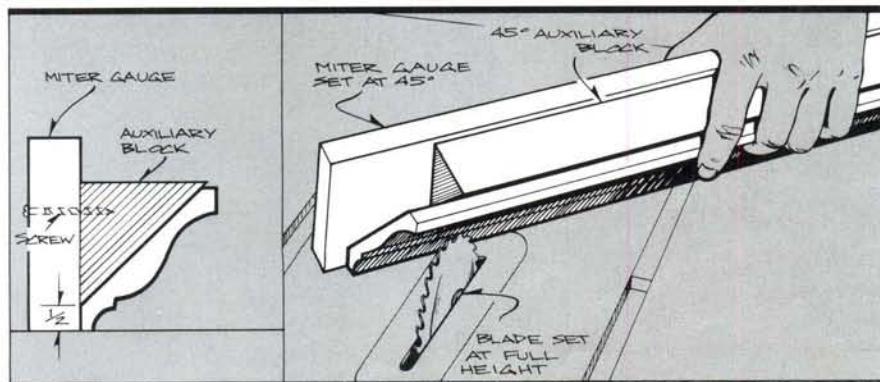
Bill of Materials (all dimensions actual)

Part	Description	Size	No. Req'd.
A	Top	$\frac{3}{4} \times 23\frac{1}{4} \times 39$	1
B	Side	$\frac{3}{4} \times 23\frac{1}{4} \times 76$	2
C	Shelf	$\frac{3}{4} \times 23 \times 39$	3
D	Apron	$\frac{3}{4} \times 7 \times 40$	1
E	Drawer Divider	$\frac{3}{4} \times 8\frac{3}{4} \times 23$	1
F	Back	$\frac{1}{4} \times 39\frac{1}{2} \times 69\frac{1}{2}$	1
G	Front Cleat	$\frac{3}{4} \times 2 \times 41\frac{1}{2}$	1
H	Side Cleat	$\frac{3}{4} \times 2 \times 24\frac{1}{4}$	2
I	Front Molding	3 $\frac{1}{2}$ in. crown molding to fit	1
J	Side Molding	3 $\frac{1}{2}$ in. crown molding to fit	2
K	Filler Strip	$\frac{3}{4} \times \frac{3}{4} \times 40$	1
L	Stile	$\frac{3}{4} \times 3 \times 68\frac{1}{4}$	4
M	Rail Lower	$\frac{3}{4} \times 4 \times 15\frac{1}{2}$	2
N	Rail Upper/Middle	$\frac{3}{4} \times 3 \times 15\frac{1}{2}$	4
O	Panel Upper	$\frac{3}{4} \times 14\frac{1}{2} \times 37$	2
P	Panel Lower	$\frac{3}{4} \times 14\frac{1}{2} \times 22\frac{1}{4}$	2
Q	Drawer Face	$\frac{1}{2} \times 8 \times 18\frac{1}{8}$	2
R	Drawer Front	$\frac{1}{2} \times 8 \times 17\frac{1}{8}$	2
S	Drawer Side	$\frac{1}{2} \times 8 \times 22$	4
T	Drawer Back	$\frac{1}{2} \times 7\frac{1}{2} \times 17\frac{1}{8}$	2
U	Drawer Bottom	$\frac{1}{4} \times 17\frac{1}{8} \times 21\frac{3}{4}$	2
V	Hinge	2 $\frac{1}{2} \times 1\frac{1}{2}$	6
W	Magnetic Catch	as shown**	2
X	Knob	1 $\frac{1}{2}$ in. dia.	2
Y	Foot Block	1 $\frac{1}{4} \times 1\frac{1}{4} \times 6$	4
Z	Glide	$\frac{3}{4}$ in. dia.**	4
AA	Closet Rod	1 $\frac{3}{8}$ in. dia. $\times$ 38 $\frac{1}{4}$	1
BB	Closet Rod Bracket	as shown**	2
CC	Drawer Glide	as shown*** 2 pair	

* Dimension shown includes tenon.

** Parts available from hardware stores.

*** The 22 in. drawer glides are available from Constantine, 2050 Eastchester Rd., Bronx, NY 10461. The catalog number is AS4022, and the price is \$22.25 a pair. For two pair, add \$5.45 for shipping and handling within the Continental U.S.



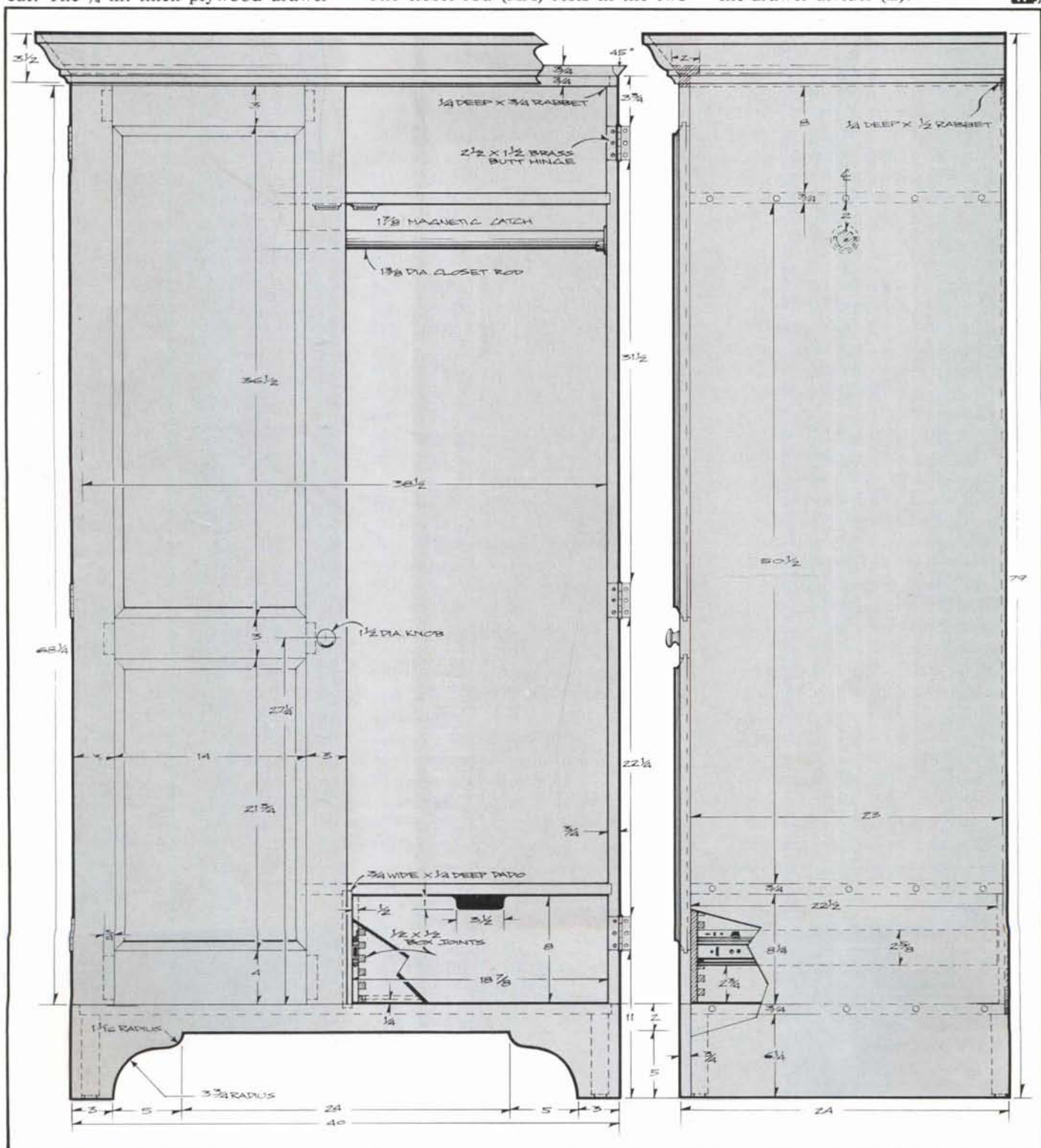
The drawers employ box joints. The joints simplify drawer construction somewhat, because the fronts (R) and sides (S) are cut to the outside dimensions of the drawers, allowing $\frac{1}{2}$ in. on each side for the mechanical drawer slides. Cut the box joints on a table saw with a dado blade, being careful to make sure they are machined to a uniform depth and width. Cut the rabbet in the sides and front with the dado blade set for a $\frac{1}{4}$ in. wide by $\frac{1}{4}$ in. deep cut. The $\frac{1}{4}$ in. thick plywood drawer

bottom (U) slides into the groove.

The drawer finger-pull recess is formed by shaping the front with a band saw, and then attaching the drawer face (Q) and trimming it to the same shape with a flush trim bit in the router.

Finally, finish the armoire, attach the hardware, hang the doors and apply the back. The hinges (V) are mortised in. The magnetic catches (W) and knobs (X) are attached with screws. The closet rod (AA) rests in the two

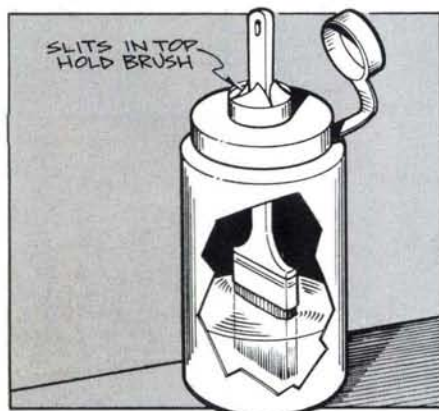
brackets (BB). When attaching the drawer glides (CC), it helps to make a jig to line them up on the inside of the drawer openings. The jig is just a piece of wood ripped to the distance between the glide bottom and the bottom of the drawer opening. Place the drawer glide on top of the jig to find the proper position. Note that you'll need to use $\frac{3}{8}$ in. long screws for the center glides so they don't interfere with each other when they meet from opposite sides of the drawer divider (E).





Shop Tips

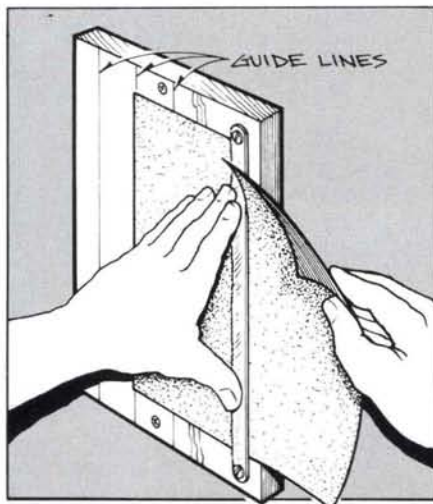
A brush soaked overnight in a jar of paint thinner generally has curled bristles by morning. To avoid this the bristles must be raised off the jar bottom. I've found that, once empty, those new "moist towlette" containers come in handy here. The unique lid, which has several slits, securely holds the brush handle. To use, first clean the empty container, then add paint thinner and insert the brush handle through the lid. Put the lid back on the



container and adjust the handle so the bristles don't touch the bottom. Some solvents (other than paint thinner) are not compatible with plastic, so check first before using them.

Daniel Borken, Bloomington, Minn.

A hacksaw blade mounted to a pine board makes a handy jig for tearing sandpaper to fit an electric pad sander or a sanding block. To save space, the



board can be attached to a wall, as shown, or it can be stored in a drawer until needed. Slide the sandpaper under the blade, then tear the sandpaper using the blade as though it were a straightedge. We find the sandpaper tears best if the smooth edge is used. If you regularly cut sandpaper to the same size, it's a good idea to scribe guidelines on the board.

To keep a tack rag from drying out, you need to store it in a container with a tight fitting lid. A glass jar is often used, but it can take up valuable shelf space. We've found that those plastic "zip lock" bags work just as well and don't require a lot of space. And should you drop the bag, you won't have to sweep up any pieces.

Many woodworkers use dowel plugs or buttons to cover countersunk screws. To get maximum strength, be sure the grain direction of the plug or button runs parallel to the grain direction of the stock. This provides the greatest long grain-to-long grain alignment and the strongest joint.

The Woodworker's Journal pays \$25 for reader-submitted shop tips that are published. Send your ideas (including sketch if necessary) to: *The Woodworker's Journal*, P.O. Box 1629, New Milford, CT 06776, Attention: Shop Tip Editor. We redraw all sketches so they need only be clear and complete. If you would like the material returned, please include a self-addressed stamped envelope.

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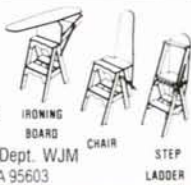
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BACK ISSUES

Back issues are \$3.50 each ppd. (\$4.50 Canadian funds). To order use the form bound in the center of this issue.

Vol. 8 No. 1 Jan-Feb '84

Shaker End Table, Medicine Cabinet, Cassette Tape Rack, Captain's Clock, Stacking Storage Unit, Veneer Bracelets, Toy Car Carrier, Infant Bead Toy, French Bread Cutter, 19th Century Kitchen Clock, Early American Trestle Table & Benches, Table Saw Cut-Off Table, Coaster Set, General Woodworking Suppliers, *Articles*: Doweling Details; Sources of Information; Restoring Hopeless Cases; Mirror Image Panels.

Vol. 8 No. 2 Mar-Apr '84

Not Available

Vol. 8 No. 3 May-June '84

Country Vegetable Bin, Folding Deck Chair, Shaker Pedestal Table, Wall Hung Display Cabinets, Wooden Coat Hanger, Toy Car and Trailer, Paper Towel Holder, Carved Hand-Mirror, Writing Desk, Carved Walking Stick, Laminated Clock, Oak and Glass End Table, *Articles*: How to Lay Out and Make Circular Cuts; Mail Order Selling; Stripping Old Finishes; Carving the Ball-and-Claw Foot.

Vol. 8 No. 4 July-Aug '84

Wag-on-Wall Clock, Oak Swing, Candy Dispenser, Coffee and End Tables, Tugboat and Barge, Lazy Susan, Early American Mirror, Colonial Pipe Box, Sewing Machine Cabinet, Cam Clamp, Hamper, *Articles*: What Sells Best?; Homemade Removers; Buying a Basic Set of Hand Tools; Kerf Bending; Suppliers of Caning & Wood Finishing Products.

Vol. 8 No. 5 Sept-Oct '84

Contemporary Stereo Cabinet, Shaker Woodbox, Bongo Box, Nesting Tables, Shop Trammel, Jackknife Letter Opener, Salt Shaker and Pepper Mill, Toy River Ferry and Car, Toy Top, Cookbook Holder, Hall Table, Grandfather Clock: Part I, *Articles*: Starting a Business: Part I; Applying Filler; Building a Basic Workbench; Making Specialty Moldings with the Table Saw and Scratch Bearer.

Vol. 8 No. 6 Nov-Dec '84

Stickley Chair, Tool Cabinet, Shaker Sewing Stand, Lighted Display Pedestal, Teardrop Clock, Pierced Tin Cabinet, Toy Hook and Ladder Fire Truck, Busy Bee Toy, Colonial Doll House, Kitchen Organizer, Wine Server, Grandfather Clock: Part II, *Articles*: Starting a Business: Part II; Applying the Final Finish; The Fundamentals of Wood; Inlays and Inserts; Gustav Stickley and American Mission Furniture.

Vol. 9 No. 1 Jan-Feb '85

Early American Step Table, Oak Barrister's Bookcase, Parquet Table, Shaker Trestle Table, Bandsawn Wooden Scoops, Toy Biplane, Book Ends, Contemporary Candle Holders, Necktie and Belt Holder, Keyed Miter Jig, Modular Coffee Table and Bar, Magazine and Book Rack, Contemporary Chest of Drawers, *Articles*: Toys and Children's Articles: An Outline of The Consumer Product Safety Commission Standards; Shellac; Truing and Squaring Lumber; The Fingerjoint Spline; Suppliers of Furniture Kits; The Shakers; Special Section: Back Issue Index.

Vol. 9 No. 2 Mar-Apr '85

Queen Anne Lowboy, Television/VCR Stand, Early American Pine Corner Cupboard, Toy Tool

Set, Windspinner, Woodchopper Whirligig, Chinese Puzzle, Cut-off Jig, Blanket Chest, Shaker Harvest Table, Blacksmith's Tool Tray, *Articles*: A Guide to Photographing Your Work; Applying Shellac and Lacquer; Sharpening Plane Blades and Chisels; Installing Machine Woven Cane; American Queen Anne, 1715-1755; General Woodworking Suppliers.

Vol. 9 No. 3 May-June '85

Jacobean Joint Stool, Wall Cabinet with Recessed Finger Pulls, Shaker Desk, Kitchen Cart, Contemporary Wall Clock, Colonial Wall Sconce, Card Box, Towel Bar with Glass Shelf, Marble Race Toy, Cradle, Vanity Mirror, Miter Clamping Jig, *Articles*: Product Liability: Part I; Restoring an Antique Mirror Frame; Coping with Wood Movement; Making Recessed Finger Pulls; The Jacobean Period.

Vol. 9 No. 4 July-Aug '85

Gate-Leg Table, Computer Desk, Shaving Horse, Stamp Dispenser, Crumb Collecting Breadboard, Toy Trucks, Early American Wall Shelf, Pivot-Top Game/Coffee Table, Settle Bench, Shaker Single-Drawer Cupboard, Fold-up Workbench, *Articles*: Product Liability: Part II; Caning and Wood Finishing Supplies; Spray Finishing; Table Saw Basics; Making the Rule Joint; The William and Mary Period.



Jointer
Push Board
J/F '87

Vol. 9 No. 5 Sept-Oct '85

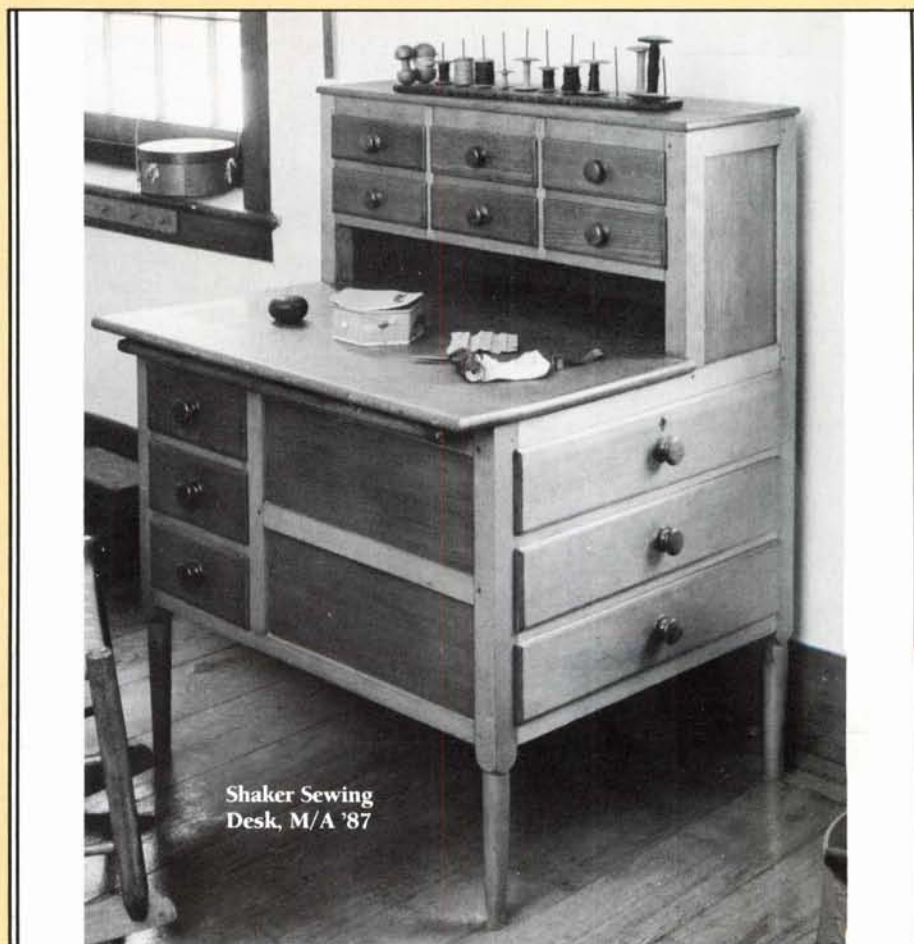
Colonial Schoolmaster's Desk, Contemporary Sideboard, Mahogany End Table, Victorian Hall Tree, Cutlery Wall Cabinet, Swing-out Plant Hanger, Prancing Horse Silhouette, Block Puzzle, Iron Caddy, Toy Ironing Board, Early American Water Bench, Wooden Smooth Plane, Shaker Sewing Box, *Articles*: A Craft Fair Visit; How to Use Stick Shellac; A Guide to Circular Saw Blades; Making Bent Laminations; Country Colonial Furniture.

Vol. 9 No. 6 Nov-Dec '85

Moravian Chair, Dulcimer, Oak Dining Table, Shaker Washstand, Marking Gauge, Veneered Wall Clock, 4 x 4 Off-Roader, Teddy Bear Puzzle, Duck Pull-toy, Landscape Cutting Boards, Early American Tall Clock, Pine Desk Organizer, *Articles*: Secrets of Success; Weaving a Fiber Rush Seat, Part I; Table Saw Ripping Problems and Their Solutions; 4-Piece Book Match Veneering; Pennsylvania Dutch Furniture.

Vol. 10 No. 1 Jan-Feb '86

Freestanding Shelf System, Chippendale Bachelor's Chest, Oriental Serving Tray, Country



Shaker Sewing
Desk, M/A '87

Bench, Antique Knife Tray, Tape Dispenser, Valentine Box, Toy Tow Truck & Car, Shaker Drop-leaf Table, Shop-made Bow Saw, Child's Settle Bench, Plate Shelves, *Articles:* On Getting Paid for Your Work; Weaving a Fiber Rush Seat, Part II; Table Saw Crosscutting: Techniques & Tips; Router-Lathe Fluting: A Shop-made Approach; Chippendale Furniture; Special Section: Back Issue Index.

Vol. 10 No. 2 Mar-Apr '86

Not Available

Vol. 10 No. 3 May-June '86

Victorian Whatnot Shelf, Contemporary Lamp, Early American Bench, Steam-bent Clock, Pine Hutch/Cupboard, Canada Goose Basket, Toy Crane, Condiment Holder, Shop Workstation, Parsons Table, Shaker Lap Desk, *Articles:* An Interview with Toymaker Clare Maginley; How to Flatten a Warped Board; A Guide for Choosing Your First Router; Supported Steam Bending; Victorian Period.

Vol. 10 No. 4 July-Aug '86

Shaker Slat-Back Side Chair, Wall-Hung Display Cabinet, Lattice-work Planter, Country Bucket Bench, Adirondack Chair, Coffee Mill, Clamdigger's Basket, Box of Shapes Toy, Disk Clock, Tenon Jig, Dictionary Stand, *Articles:* Selecting the Right Project for Production; More About Warped Boards; All About Router Bits; The Sliding Dovetail Joint; Furniture Kits Suppliers.

Vol. 10 No. 5 Sept-Oct '86

Desk with Tambour Top, Vanity Case, Stool, Coffee Table, Blanket Chest, Mortar and Pestle, Whale Folk Art Silhouette, Toy Wagon, Cranberry Rake, Router Bit Box, Shaker Drop-leaf Table, *Articles:* Are Your Prices Competitive?; Restoring a Rosewood Chair; Basic Router Operations; Making Tambour Doors; General Woodworking Suppliers.

Vol. 10 No. 6 Nov-Dec '86

Early American Hamper, Cube Table, Rabbit Pull Toy, Old-Time Sled Wall Shelf, Cassette Tape Holder, Dog/Cat Bed, Vanity Mirror, Early American Washstand, Router Table, Victorian Sleigh, *Articles:* Wholesale and Discount Sources of Supply; Sandpaper Abrasives; Using the Router Table; The Mitered Bead Frame and Panel; Clock Parts Suppliers.

Vol. 11 No. 1 Jan-Feb '87

Shaker Blanket Chest, Glass-Top Dining Table, Dovetailed Stool, Jewelry Box, Door Harp, Toy Firetruck, Canada Goose Mobile, Balancing Sawyer Folk Toy, Early American Style End Table, Joiner Push Board, *Articles:* Direct Mail Promotions — Defining the Market for Your Work; Old Wood; The Mortise and Tenon, Part I; Combination Hand/Router Dovetailing; Special Section: Back Issue Index.

Vol. 11 No. 2 Mar-Apr '87

Shaker Sewing Desk, Garden Bench and Table, Mirrored Wall Shelf, Rhombohedron Puzzle, Wood Sawyer Whirligig, Folk Art Door Stop, Kangaroo Pull Toy, Colonial Pine Wall Shelf, Contemporary Hall Table, *Articles:* How to Create a Direct Mail Promotion; Types of Finish — An Overview; The Mortise and Tenon, Part II; Making Bevel-Edged Drawer Bottoms.

Vol. 11 No. 3 May-June '87

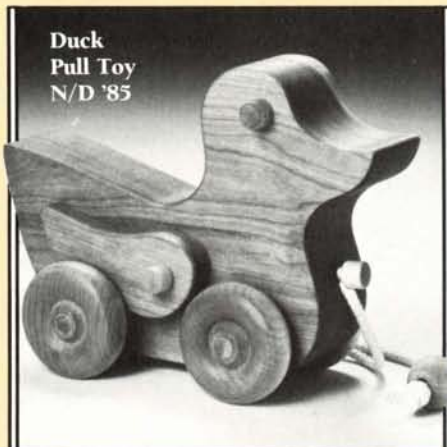
Display Pedestal, Kitchen Canister Set, Riding Biplane, Contemporary Serving Cart, Napkin Holder, Decorative Planter, Country Vegetable Bin, Pine Medicine Cabinet, Shop Drum Sander, Vienna Regulator Clock, *Articles:* Penetrating Oils and How to Use Them; The Joiner; Veneer, Part I; Decorative Joinery: Dovetail Key Butt-Miter; Caning and Wood Finishing Suppliers.

Vol. 11 No. 4 July-Aug '87

TV/VCR Cabinet, Early American Style Bookcase, Pine Trash Container, Sturdy Low-cost Workbench, Country Basket, Desk Calendar with Pen & Pencil, Butterfly Pull Toy, Vanity Mirror with Drawer, Apothecary Chest, *Articles:* Shellac; The Hand Plane; Veneer, Part II; Incised Carving; Hardwoods Suppliers.

Vol. 11 No. 5 Sept-Oct '87

Pine Woodbox, Contemporary Love Seat, Two-Drawer Oak Platform Bed, Snail Pull Toy, Routed Trivets, Spice Rack with Chip Carving, Joiner's Tool Chest, Shaker-style Step Stool, Turned Shop Mallets, *Articles:* French Polishing Made Easy; Plane Iron Sharpening; Making a Splayed Leg Drill Guideblock; Traditional Chip Carving; Shop-Tested: 12 Jigsaws.



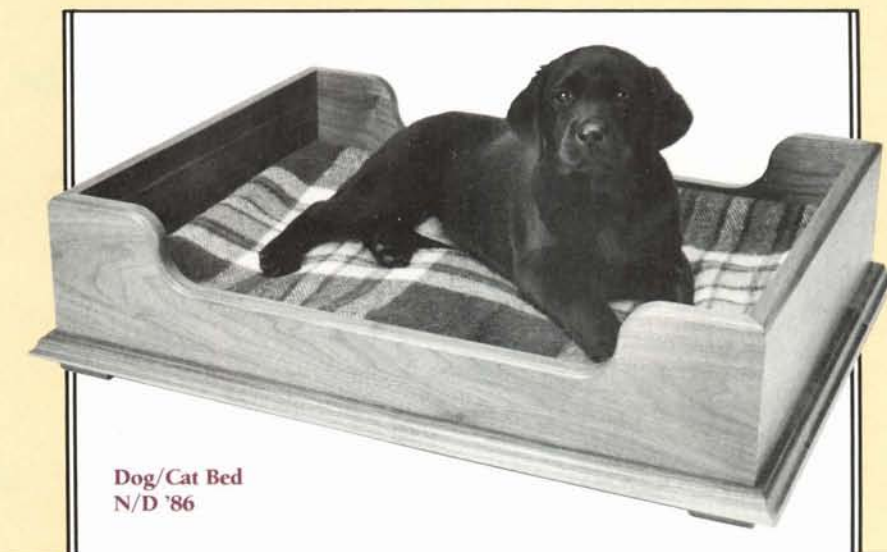
Duck
Pull Toy
N/D '85

Vol. 11 No. 6 Nov-Dec '87

Curio Cabinet, Rocking Horse, Three-drawer Jewelry Chest, Tapering Jig, Rolling Toy, Folk Art Silhouette, Two Towel Racks, Early American Style Wall Shelf, Corner Cupboard, Stacking Wine Racks, *Articles:* On Glues and Gluing; Band Saw Setup; Making the Continuous Bracket Foot; Step-By-Step To A Flawless Finish On Pine (Or Any Other Wood); Hardware Suppliers.

Vol. 12 No. 1 Jan-Feb '88

Early American Pierced Tin Cabinet, Contemporary Coffee Table, Puss 'n Books Bookends, Cookbook Holder, Wooden Jewelry, Child's Duck Puzzle, Shaker Wall Clock, Stereo Cabinet and Speakers, Country Occasional Table, Drill Press Jig, *Articles:* Edge-gluing; The Drill Press; Pierced Tin; Four Shopmade Finishes; General Woodworking Suppliers.



Dog/Cat Bed
N/D '86

Vol. 12 No. 2 Mar-Apr '88

Folk Harp, Oak & Glass Tier Table, Crystal Regulator Clock, Early American Candlesticks, Arrow Wall Decoration, Three-Drawer Country Wall Box, Key Cabinet, Contemporary Box, Shaker Carrier, *Articles:* Use and Sharpening of the Hand Scraper; The Lathe: Basic Setup; Quartered Turnings; Lacquer; Stationary Tool Suppliers.

Vol. 12 No. 3 May-June '88

Hunt Table, Loon Carving, Early American Dry Sink, Contemporary Dresser, Old-Time Pipe Box, Antique Knife & Fork Tray, Dutch Tulip Folk-Art Silhouette, Colonial Salt Box, Bud Vase, Miter Gauge Stop, *Articles:* Spindle Turning; Selecting and Sharpening Lathe Tools; Recessed Finger Pull Step-By-Step; Types of Stain; Clock Parts Suppliers.

Vol. 12 No. 4 July-Aug '88

Four-Drawer Lamp, Oak Magazine Rack, Occasional Table, Mitered-Corner Box, Heart Stool, Decorative Cutting Boards, Kids' Piggy Bank, Turned Bowl, Country Cupboard, *Articles:* Faceplate Turning; Workshop Layout; Cutting Dovetails on the Table Saw; Staining Basics; Schools and Craft Centers.

Vol. 12 No. 5 Sept-Oct '88

Oak Bookcase Desk, Miter Cutting Jig, Captain's Clock, Country Coffee Table, Rooster Folk-Art Silhouette, Harvest Basket, Bird Push Toy, Pencil Post Nightstand, 18th-Century Pencil Post Bed, *Articles:* Why Worry About Wood Movement?; Joining Ring Segments; Drill Bits and Boring: The Hole Story; Filling Open-Grained Woods; Hardwood Suppliers.

Vol. 12 No. 6 Nov-Dec '88

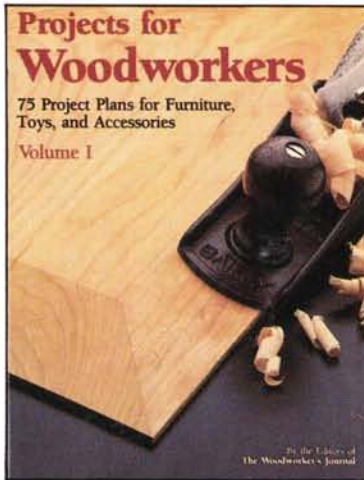
Child's Carousel Lamp, Shaker High Chest, Table Saw Crosscut Box, Country Vegetable Bin, Whale Pull Toy, Colonial Wall Sconce, Treetop Christmas Ornament, Classic Pickup Truck, Contemporary Cradle, *Articles:* Flattening Wide Surfaces with the Hand Plane; Making a Cove-Edged Raised Panel: Core-Box Bit Method; Polyurethane; A Sander For Large Surfaces; Caning and Wood Finishing Suppliers.

Vol. 13 No. 1 Jan-Feb '89

Shaker Wall Cabinet, Shop-Built Disk Sander, Cherry Table, Pine Wall Clock, Rock and Roll Toy, Contemporary Candlesticks, Merganser Decoy, Child's Table and Chairs, *Articles:* Buying Hardwood Lumber: What You Need to Know; The Thickness Planer; Making Breadboard Ends; Ebonizing; Hardware Suppliers.

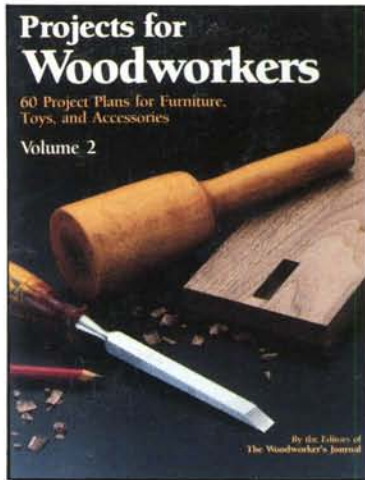
BOOKS from The Woodworker's Journal

You'll find the handy order form for these books bound in the center of this issue.



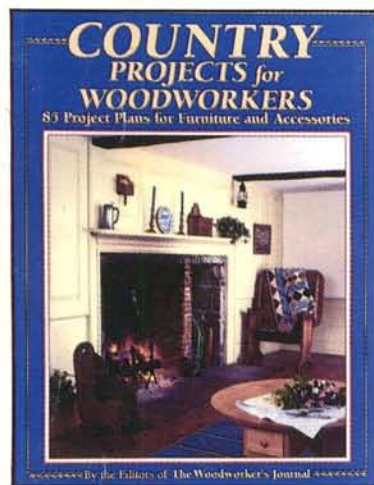
Projects for Woodworkers, Volume 1

Beginning and advanced woodworkers alike will appreciate this selection of 75 projects from the 1980-81 issues of *The Woodworker's Journal*. Includes furniture, accessories, lamps, clocks, toys and gifts.



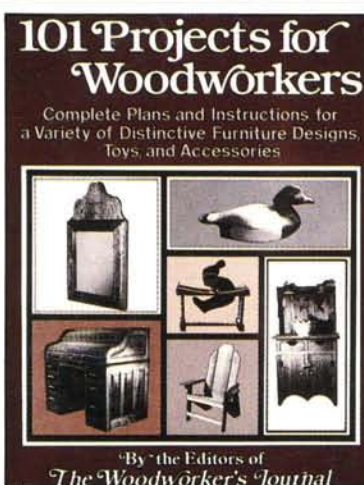
Projects for Woodworkers, Volume 2

Originally published in the 1982 issues of *The Woodworker's Journal*, all 60 projects were chosen with a wide variety of styles and skill levels in mind. From household accessories to major furniture, each project is presented with complete instructions and thorough illustrations.



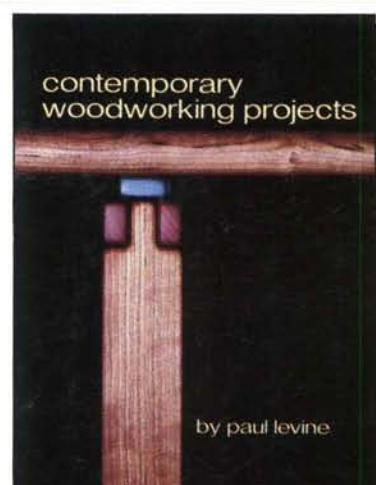
Country Projects for Woodworkers

A collection of 85 country-style projects from the 1980-1984 issues of *The Woodworker's Journal*. Each with complete, easy-to-follow written instructions, and clear, fully-detailed illustrations.



101 Projects for Woodworkers

An unparalleled variety of classic projects from the 1977-80 issues of *The Woodworker's Journal*. From the eager amateur just starting out to the craftsman with a shop full of tools, **101 Projects for Woodworkers** has plans for everyone.



Contemporary Woodworking Projects

The author guides woodworkers of all skill levels through room-by-room chapters of coordinated furniture and accessories. The graceful lines, clean angles, sturdy joinery and special techniques are made easy to master with step-by-step instructions and illustrations.

Next Issue . . .

you'll find more great projects in *The Woodworker's Journal*. The Jewelry Chest, Oval Extension Table and Nessie Pull Toy are just three of the many exciting projects we're working on now.



Jewelry Chest



Nessie Pull Toy



Oval Extension Table