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# The Woodworker's Journal

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Vol. 7, No. 4

July/August 1983

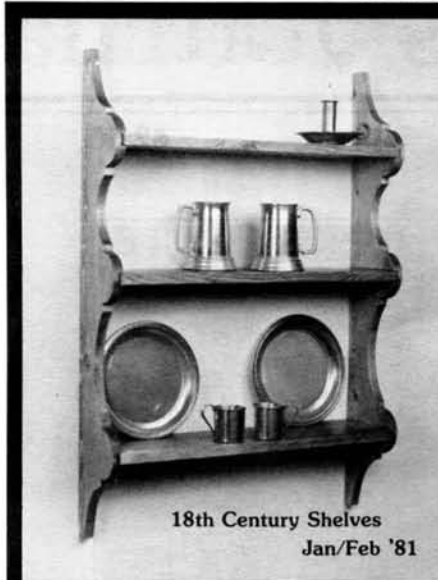
\$2.50



Detail: Chinese Tea Table

**Included In This Issue:** Antique Sugar Chest • Toy Tractor & Cart  
Decoy Carving • Old-World Weather Forecaster • Display Pedestal  
Chinese Tea Table • Turned Lamp • Cabinet for Records and Tapes

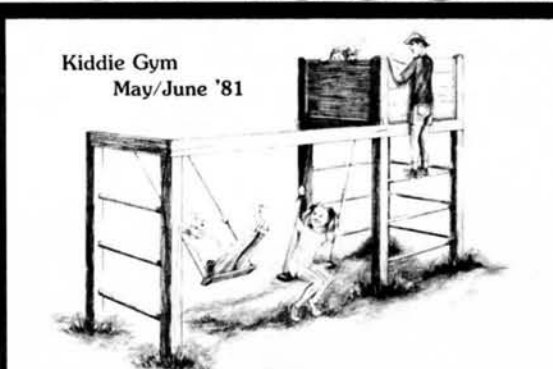
# BACK ISSUES



18th Century Shelves  
Jan/Feb '81



Contemporary Buffet May/June '81



Kiddie Gym  
May/June '81



Child's  
Booster  
Seat

Sept/Oct '80



Mug Rack May/June '81



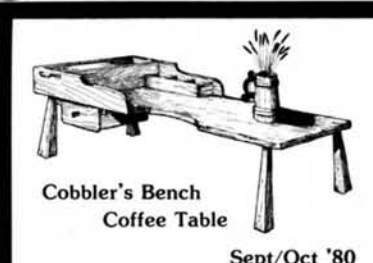
Rocker Foot  
Rest

July/Aug '81



Antique  
Spoon  
Rack

Mar/Apr '81



Cobbler's Bench  
Coffee Table

Sept/Oct '80



Musical  
Jewelry  
Box



Sept/Oct '81

Each issue of *THE WOODWORKER'S JOURNAL* is filled with detailed plans for all types of woodworking projects, a few of which are shown above. There are also regular columns on restoring antiques and workshop income plus useful jigs and shop tips, but our main purpose has always been to provide our readers with a variety of *PROJECT PLANS*. Check the contents of available issues below and send your order today...supplies are limited.

Vol. 4 No. 1 Jan-Feb '80: Doughbox End Table, Contemporary Loveseat, Mahogany Chairside Table, Corner Cupboard Part I, Small Pine Corner Cabinet, Knife Rack Cutting Board, Apple-Shaped Mirror, Pine Tape Dispenser, Auxiliary Cut-Off Table for Tablesaw.

Vol. 4 No. 2 Mar-Apr '80: Firewood Rack & Carrier, Red Baron Triplane Toy, Pine Pie Safe with Pierced Tin Panels, Contemporary Glass Top Coffee Table and Matching End Table, 19th Cent. Pine Commode, Corner Cupboard Part II, Butcher Block Toy Box, Mahogany Corner Shelf, Jig for Wooden Trivets, Radial Arm Crosscut Table.

Vol. 4 No. 3 May-June '80: Miniature Campaign Chest, 19th Cent. Sawbuck Table, Decorative Frog, Violin Sconce, Shaker Cutlery Tray, Swinging Bracket & Planter, Club Chair & Ottoman, Oak Cottage Chair, Wooden Lock.

Vol. 4 No. 4 July-Aug '80: Magazine Rack, Gothic Oak Stool, Whale Cribbage Board, Doll Cradle, Nut & Bolt Toy, Basket-weave Planters, Easy Wall Clock, Router Bit Box, Pine Cellarette, Lap Chessboard, Pine Wall Box.

Vol. 4 No. 5 Sept-Oct '80: Cabinetmaker's Workbench, Cobbler's Bench Coffee Table, 19th Cent. Cherry Table, Kitchen Utensils, Book Rack, Nuts & Bolts, Nutcracker, Walnut & Glass Bank, Schoolhouse Desk, Booster Seat.

Vol. 4 No. 6 Nov-Dec '80: 17th Cent. Mantle Clock, Toy Truck, Bud Vase, Grain Scoop, Letter Rack, Phone Memo Caddy, Toy Circus Wagons, Animal Puzzles, Library Stool, Quilt Rack, Ratchet Table/Lamp, 18th Cent. Trestle Table, Lathe Steady Rest.

Vol. 5 No. 1 Jan-Feb '81: 18th Cent. Wall Shelves, Hand Mirror, Cutting Boards, Tic-Tac-Toe Game, 18th Cent. Vanity, Shaker Pine Cupboard, Tenon Jig, Towel Ring, Matchbox, Corner Shelves, Contemporary Cabinet, Black Forest Clock, Shop Drawing Board.

Vol. 5 No. 2 Mar-Apr '81: Child's Rocker, Bandsaw Jig, Push-Pull Toy, Half-Round Table, Spoon Rack, Salt and Pepper Shakers, Calculator Stand, Anchor Thermometer, Plant Stand, Oak Writing Desk, 18th Cent. Chair Table, Shop-Built Hand-screw.

Vol. 5 No. 3 May-June '81: 18th Cent. Sleigh Seat, Child's Step Stool, Kiddie Gym, Flying Duck, Dominoes, Trouser Hanger, Mug Rack, Folding Sun Seat, Ship's Wheel Table, Contemporary Buffet.

Vol. 5 No. 4 July-Aug '81: Longhorn Steer, Bike Rack, Miniature Chest, Doll House Bed, Curio Shelves, Belt Rack, Rocker Footrest, Early American Wall Shelf, Multipurpose Cabinet, Box Cutting Jig.

Vol. 5 No. 5 Sept-Oct '81: 18th Cent. Rudder Table, Musical Jewelry Box, Colonial Candlestick, Deacon's Wall Shelf, Toy Hippo, Spalted Boxes, Woodbox, Sewing Cabinet with Tambour Doors, 18th Cent. Tavern Table, Router Jig for Stopped Dados.

Vol. 5 No. 6 Nov-Dec '81: Old-Time Ice Box, Victorian Sled, Tile Clock, Wine Glass Holder, Mahogany Wall Shelf, Inkwell, Bagel Slicer, Seal Push Toy, Wooden Combs, Antique Knife Tray, Memo Cube, Fireplace Bellows, Contemporary Shelving, Weather Station, Shop-Built Bar Clamp.

Vol. 6 No. 1 Jan-Feb '82: Contemporary Sofa Table, Artist's Easel, Candle Box, Laminated Box, Butcher Block Knife Rack, Frog Pull Toy, Infinity Mirror, Japanese Style Table Lamp, Empire Footstool, Desk Caddy, Stepped-Back Hutch, Buck-board Seat, Latticework Cutting Jig.

Vol. 6 No. 2 Mar-Apr '82: Early American Blanket Chest, 18th Cent. Corner Shelf, Pine Footstool, Cheese Cutting Board, Napkin Holder, Trivets, Coaster Set, Pierced Tin Cabinet, Hutch Clock, Oak File Cabinet, Mahogany Tripod Table, Wall Hung Plant Bracket.

Vol. 6 No. 3 May-June '82: Country Kitchen Cabinet, Rough-Sawn Cedar Clock, Swinging Cradle, Toy Helicopter, Casserole Dish Holder, Ship's Wheel Weather Station, Octagonal Planter, Tambour Desk, Band Saw Boxes, 19th Cent. Step-Chair, Sailing Ship Weather Vane.

Vol. 6 No. 4 July-August '82: Dovetailed Footstool, Toy Chest, Plant Stand, 18th Cent. Lawyer's Case, Frame and Panel Joint with Decorative Bevel, Collector's Plate Frame, Toy Jeep, Trestle Table and Bench, 19th Cent. Danish Washstand, Contemporary Wall Valet.

Vol. 6 No. 5 Sept-Oct '82: Early American Hanging Corner Cupboard, Breakfast Serving Tray, Veneered End Table, Chess Table, Chest of Drawers, Contemporary Writing Desk, Whale Toy, Laminated Shoehorn, Spaghetti Measure, Candle Holder, Horizontal Boring Jig, Cane Suppliers, Finishing Suppliers.

Vol. 6 No. 6 Nov-Dec '82: Lyre Clock, Geodesic Lighting Fixture, Sawhorse Dining Table, Oak Desk Clock, Shaker Wall Shelves, Old-Time Radio Case, Cider Press Lamp, Contemporary Hanging Light Fixture, Firewood Rack, Toy Tool Box, Christmas Tree Ornaments, Willie and Tuna Push Toy, Woodpile Trivet, Circle Cutting Jig, General Woodworking Suppliers.

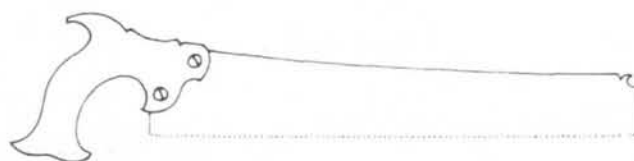
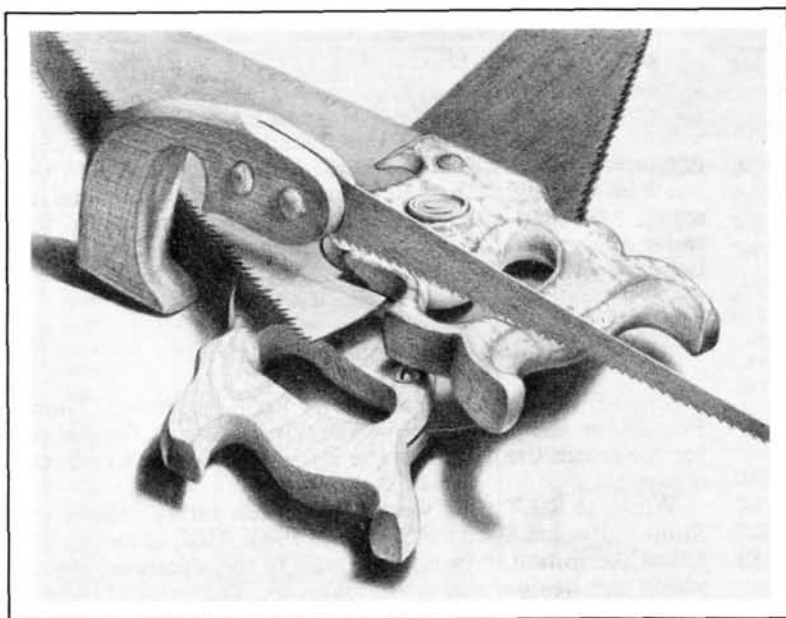
Vol. 7 No. 1 Jan-Feb '83: Workshop Tote Box, Tinsel-Art Mirror, European Spinning Wheel, Key Holder, Dump Truck Toy, Bang-a-Peg Toy, Puzzle, Wall Cabinet with Reverse Glass Stencil, End Grain Table Lamp, Butler's Tray Table, Contemporary Clock, Pine Cabinet.

Vol. 7 No. 2 Mar-Apr '83: Porch Swing, Homemade Jig Saw, Cheval Mirror, Punched Tin Spice Cabinet, Television Stand, Nautical Table Lamp, Wooden Balance, Nesting Cube Tables, Steam Roller Toy, Back Massager, Mailbox, Wall Shelf, Chippendale Mirror, Clock Parts and Suppliers.

Vol. 7 No. 3 May-June '83: Oak Pedestal Table, Drafting Table, Early American Wall Unit, Folding Snack Table, Pine Corner Cupboard, Toy Car with Boat & Trailer, Letter Opener, Contemporary Serving Tray, Hanging Mirror with Shelf, Carved Eagle, Early American Portable Bookcase, Hardwood Suppliers.

Please  
Note

Vol. 4, No. 1 through Vol. 4, No. 4 are newsprint issues for \$1.50 each. From Vol. 4, No. 5 on, they are magazines for \$2.50 each, postpaid. CT residents only please add 7 1/2 % sales tax.



# The Woodworker's Journal

VOLUME 7, NUMBER 4  
JULY/AUGUST 1983

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### Contributions

We welcome contributions in the form of manuscripts, drawings and photographs and will be glad to consider such for possible publication. Contributors should include a stamped, self-addressed envelope of suitable size with each submission. While we cannot assume responsibility for loss or damage, all materials will be treated with care while in our possession. Payment for the use of unsolicited material will be made upon acceptance. Address all contributions to: Editor, **The Woodworker's Journal**, P.O. Box 1629, New Milford, CT 06776.

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# Shoptalk

Back to the Drawing Board

We were due for a contemporary lamp project and I thought it would be nice if we could lathe turn an elegant lamp base; a "quickie" project that would be fairly easy for both us and the readers.

It seemed like a nice straightforward design on paper so we laminated a stack of two inch thick cherry for a turning blank. I began to have some misgivings when I actually saw the turning blank which seemed fearfully large and heavy for our vintage Craftsman lathe.

After chucking this monster, we took a deep breath and hit the switch. Nothing happened. We shut off the switch and checked the outlet and motor which looked o.k., so on went the switch again. This time the motor started smoking. Off with the switch. The comic strip balloons started sprouting over our heads with question marks in them. Also some exclamation points.

We tried cutting down the corners and reducing the mass a bit and with a hand start got the big chunk spinning. But in a couple of seconds, as the R.P.M.'s built up, the lathe bench started doing a horrible Dance Macabre. Off went the switch as it seemed likely that someone or something was about to sustain mortal injury.

Considerable discussion followed during which it was determined that the turning blank was just too much out of balance and could not be turned on our lathe. This was a painful admission as the lamp was scheduled to be photographed three days earlier.

Three of us went back to the drawing boards to figure out another way of gluing up the turning blank. We finally

worked it out and the completed turning was lovely, as the photo on page 28 shows.

The point of this story is that we have to keep constantly aware of the limitations of our reader's equipment. A bigger lathe, with more horsepower would have handled the blank as we originally glued it up but many of our readers would have had a frustrating experience trying to do the same on small lathes. I think we'll hang on to our small lathe for a while.

## Reinforcements Have Arrived

Another name has been added to our Masthead. Glenn Firmender has just completed his third year in the School for American Craftsmen at the Rochester Institute of Technology.

While at R.I.T., his work was chosen for exhibit in the Student Honors Shows of 1982 and 1983. Also, at the Finger Lakes Exhibition, he won first prize in the woodworking division for design and craftsmanship. The project was a chest of drawers that can be described simply as beautiful.

Glenn will be responsible for initiating new designs and converting those designs into reality in our shop. He is a very enthusiastic and prolific craftsman and we sure are glad to have his help.

*Jim McQuillan*

## Multi-purpose Machines for a complete woodworking shop at prices you can afford —



The **Emco Star 2000** is 4 precision tools in one basic unit, operated from the same heavy-duty 2 hp motor. Bandsaw—table saw—disc sander and spindle moulding machine. Eight more operations can be added with attachments.



The **DB-5** wood-turning lathe is perfect in all details. 39" between centers, 15" swing, 4 spindle speeds and a heavy-duty 3/4 hp motor.

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The **Rex 2000** is the finest jointer-planer-thicknessing machine available. This 10 1/4" capacity machine is powered by a 2 1/2 hp motor. Table saw, slot mortising and moulding attachments may be added later.

# TOOLS ON SALE

Milwaukee • Makita • Hitachi • Jorgensen • Forstner • Dremel

**WE WILL PAY THE FREIGHT ON EVERY ITEM IN THIS AD**

★ Any Combination of Purchases over \$500.00 Deduct Additional 3% ★

## MILWAUKEE ELECTRIC TOOLS

| Model  |                               | List  | Sale  |
|--------|-------------------------------|-------|-------|
| 0222-1 | 3/8" Hole Shooter H.D. 3.3A   | \$136 | \$ 95 |
| 0224-1 | 3/8" Magnum Hole Shooter      | 144   | 99    |
| 0244-1 | 1/2" 4.5A H/Shooter 0-600     | 155   | 109   |
| 0234-1 | 1/2" Magnum Hole Shooter      | 155   | 109   |
| 6507   | TSC SawzAll w/case            | 179   | 120   |
| 6511   | 2 Sp Sawzall w/case           | 167   | 117   |
| 6365   | 7-1/4" Circular Saw 13A       | 149   | 99    |
| 6405   | 8-1/4" Circular Saw 13A       | 167   | 117   |
| 6245   | 3.8 Amp Single Spd Jig Saw    | 129   | 91    |
| 5900   | 3" x 24" Belt Sander          | 311   | 218   |
| 5910   | 4" x 24" Belt Sander          | 330   | 229   |
| 5620   | 1 H.P. 8 AMP Router           | 215   | 145   |
| 5660   | 1.50 H.P. 10 AMP Router       | 239   | 165   |
| 5680   | 2.00 H.P. 12 AMP Router       | 299   | 209   |
| 5397   | T.S.C. 3/8" Hammer Drill Kit  | 203   | 145   |
| 5399   | 1/2" 6.2A HD Hammer Drill Kit | 239   | 169   |
| 6145   | 4 1/2" Angle Grinder 5.A      | 139   | 97    |
| 6750-1 | HD Dry/W Shooter 0-4000rpm    | 136   | 95    |

## MAKITA ELECTRIC TOOLS

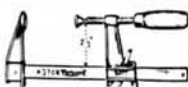
| Model   |                                      | List  | Sale  |
|---------|--------------------------------------|-------|-------|
| 1900BW  | 3 1/4" Planer w/case                 | \$143 | \$ 89 |
| 1100    | 3 1/4" Planer Kit                    | 261   | 178   |
| 1805B   | 6 1/8" Planer Kit                    | 416   | 285   |
| 9900B   | 3"x21" Dustless Belt Sander          | 191   | 127   |
| 9924DB  | 3"x24" Dustless Belt Sander          | 208   | 139   |
| 9401    | 4"x24" Dustless Belt Sander          | 273   | 179   |
| B04510  | Finish Sander, Square Base           | 79    | 49    |
| B04520  | Finish Sander, 5" Round Base         | 79    | 51    |
| 9045N   | 4 1/2"x9 1/4" Finish Sand., Dustless | 160   | 110   |
| 3600B   | 1 H.P. Router                        | 118   | 82    |
| 3601B   | 1 1/4 H.P. Router                    | 196   | 130   |
| 3600B   | 2 H.P. Plunge Router                 | 299   | 190   |
| 6510LVR | 3/8" Rev. Var. Speed Drill           | 109   | 68    |
| DP4700  | 1/2" V.S.R. Drill 4.8 AMP            | 142   | 95    |
| 6013BR  | 1/2" Rev. 6 AMP Drill                | 159   | 118   |
| 6000R   | 3/8" R.V.S Uni-Drill                 | 154   | 112   |
| 6010DWK | 3/8" Cordless Drill w/case           | 142   | 84    |
| 6012HDW | 3/8" Cordless 2-Sp. w/cl. Drill      | 164   | 107   |
| 4200N   | 4 3/8" Circular Saw                  | 138   | 92    |
| 4300BV  | Var. Speed Jig Saw                   | 192   | 121   |

## HITACHI POWER TOOLS

| Model   |                                                     | List  | Sale  |
|---------|-----------------------------------------------------|-------|-------|
| DUT-10  | 3/8" 2 Speed 3.9 AMP Drill                          | \$133 | \$ 88 |
| SB-75   | 3"x21" Dustless Belt Sander 2 Sp.                   | 195   | 140   |
| SB-110  | 4"x24" Dustless Belt Sander 2 Sp.                   | 273   | 189   |
| SD-110  | 4 1/2" x 9" Finish Sander                           | 144   | 99    |
| SDD-110 | 4 1/2" x 9" Finish Sander Dustless                  | 155   | 104   |
| JHV-60  | Var. Speed Jig Saw 3.5A                             | 184   | 128   |
| PSM-7   | 7 1/2" - 11 AMP Circular Saw                        | 158   | 119   |
| TSB-10  | Mitre Saw - 10"                                     | 357   | 259   |
| DRC-10  | 3/8" Cordless Drill 2-Sp/Rev with Adj. Torque Range | 144   | 96    |
| VTC-10  | 3/8" Cordless Hammer Drill 2 Speed, Reversible      | 171   | 125   |
| DTC-10  | 3/8" Cordless Hitachi Drill 2 Speed with Reverse    | 133   | 74    |
| DIOV    | 3/8" Hitachi Variable Speed Rev. 3.3 AMP Drill      | 114   | 69    |

## ★ SUPER SPECIALS ★

| Model  |                                   | List  | Sale  |
|--------|-----------------------------------|-------|-------|
| 6377   | Milwaukee 7 1/4" Worm Drive Saw   | \$220 | \$139 |
| 6378   | Milwaukee 8 1/4" Worm Drive Saw   | 235   | 149   |
| 9005B  | Makita 5" Grinder-10,000 rpm 9.4A | 149   | 99    |
| 9607BL | Makita 7" Grinder-6,000 rpm 15A   | 229   | 149   |
| 9609B  | Makita 9" Grinder-6,000 rpm 15A   | 236   | 154   |



2 1/2" Throat  
Bar Size 1/4" x 3/4"

## JORGENSEN STEEL BAR CLAMPS Style 37

|           | List    | Sale    | Lots of 6 |
|-----------|---------|---------|-----------|
| #3706 6"  | \$ 7.88 | \$ 5.50 | \$ 29.70  |
| #3712 12" | 8.73    | 5.95    | 32.13     |
| #3718 18" | 9.64    | 6.95    | 37.53     |
| #3724 24" | 10.54   | 7.35    | 39.69     |
| #3730 30" | 11.76   | 8.25    | 44.55     |
| #3736 36" | 12.85   | 8.95    | 48.33     |

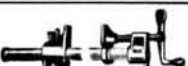


5" Throat

Bar Size 1 3/8" x 5/16"

## JORGENSEN STEEL BAR CLAMPS Style 45

|           | List    | Sale    | Lots of 6 |
|-----------|---------|---------|-----------|
| #4506 6"  | \$22.49 | \$15.95 | \$86.15   |
| #4508 8"  | 23.04   | 16.50   | 89.10     |
| #4512 12" | 23.85   | 17.50   | 94.50     |
| #4518 18" | 25.16   | 18.95   | 102.35    |
| #4524 24" | 26.61   | 20.95   | 113.15    |
| #4530 30" | 28.06   | 21.95   | 118.50    |
| #4536 36" | 29.54   | 22.95   | 123.95    |



(pipe not included)

## JORGENSEN PONY PIPE CLAMPS

|                               | List    | Sale    | Lots of 12 |
|-------------------------------|---------|---------|------------|
| #50 for 3/4" black pipe       | \$11.23 | \$ 7.95 | \$ 85.86   |
| #52 for 1/2" black pipe       | 9.36    | 6.50    | 70.20      |
| #74 Bar Clamp Pads (Set of 4) | 4.03    | 2.50    | 27.00      |



## JORGENSEN BAND CLAMPS (CANVAS) Style 62

|           | List    | Sale    | Box of 6 |
|-----------|---------|---------|----------|
| #6210 10' | \$52.24 | \$34.95 | \$188.73 |
| #6215 15' | 57.29   | 37.95   | 204.93   |
| #6220 20' | 62.32   | 40.95   | 221.13   |
| #6225 25' | 67.34   | 42.95   | 231.93   |
| #6230 30' | 72.39   | 45.95   | 248.13   |

## JORGENSEN BAND WEB CLAMP

|           | List    | Sale    | Lots of 12 |
|-----------|---------|---------|------------|
| #1215 15' | \$10.57 | \$ 6.50 | \$ 70.20   |

## JORGENSEN HOLD DOWN CLAMPS

|                      | List   | Sale    | Box of 6 |
|----------------------|--------|---------|----------|
| #1623 3" Opening Gap | \$9.98 | \$ 7.50 | \$ 39.95 |



## JORGENSEN ADJUSTABLE HAND SCREWS

|      | Jaw Length | Open Cap. | List    | Sale    | Box of 6 |
|------|------------|-----------|---------|---------|----------|
| #5/0 | 4"         | 2"        | \$11.59 | \$ 7.50 | \$ 40.50 |
| #4/0 | 5"         | 2 1/2"    | 12.45   | 8.50    | 45.90    |
| #3/0 | 6"         | 3"        | 13.35   | 8.95    | 48.33    |
| #2/0 | 7"         | 3 1/2"    | 14.35   | 9.50    | 51.30    |
| #0   | 8"         | 4 1/2"    | 15.97   | 10.50   | 56.70    |
| #1   | 10"        | 6"        | 18.25   | 11.95   | 65.50    |
| #2   | 12"        | 8 1/2"    | 20.94   | 14.25   | 76.95    |
| #3   | 14"        | 10"       | 26.56   | 17.50   | 94.50    |
| #4   | 16"        | 12"       | 34.55   | 24.95   | 134.73   |



Jaws - 2" High x 1 1/4" Wide  
I Bar Size - 1 1/2 x 7/16 x 5/32  
5/8" Diameter Screw Size

## JORGENSEN STEEL "I" BAR CLAMPS

| Model |     | List    | Sale    |
|-------|-----|---------|---------|
| #7224 | 24" | \$23.45 | \$16.50 |
| #7230 | 30" | 24.38   | 17.50   |
| #7236 | 36" | 25.16   | 18.50   |
| #7248 | 48" | 27.62   | 21.50   |
| #7260 | 60" | 30.77   | 24.50   |
| #7272 | 72" | 33.26   | 26.50   |

## GENUINE FORSTNER BITS

Type #60 - Made in U.S.A.

| Size    | List    | Sale    | Size   | List    | Sale    |
|---------|---------|---------|--------|---------|---------|
| 1/4"    | \$18.20 | \$13.65 | 1 1/8" | \$24.10 | \$18.10 |
| 5/16"   | 17.90   | 13.40   | 1 1/4" | 25.15   | 18.85   |
| 3/8"    | 17.65   | 13.25   | 1 1/2" | 28.90   | 21.75   |
| 7/16"   | 17.65   | 13.25   | 1 3/4" | 31.75   | 23.80   |
| 1/2"    | 18.20   | 13.65   | 1 7/8" | 34.25   | 25.70   |
| 9/16"   | 18.75   | 14.10   | 2"     | 36.25   | 27.20   |
| 5/8"    | 19.05   | 14.30   | 2 1/8" | 37.45   | 28.10   |
| 11/16"  | 19.15   | 14.40   | 2 1/4" | 40.65   | 30.50   |
| 3/4"    | 19.25   | 14.45   | 2 3/8" | 48.70   | 36.55   |
| 13/16"  | 19.50   | 14.65   | 2 1/2" | 52.65   | 39.50   |
| 7/8"    | 19.70   | 14.80   | 2 3/4" | 59.05   | 44.30   |
| 15/16"  | 19.90   | 15.00   | 2 7/8" | 64.20   | 48.15   |
| 1"      | 20.10   | 15.20   | 3"     | 70.10   | 52.60   |
| 1 1/16" | 20.85   | 15.65   |        |         |         |
| 1 1/8"  | 22.25   | 16.70   |        |         |         |
| 1 1/4"  | 22.80   | 17.10   |        |         |         |
| 1 1/2"  | 23.45   | 17.60   |        |         |         |

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## Letters

In the January/February 1983 issue you had a letter from Robert H. Smith inquiring about the finish on antique pine furniture. John Olson replied that this was a tinted lacquer type of finish and could be purchased from a specialty supply house. I would like to try some of these finishes but don't know the name or address of any supply houses.

John H. Bradley, Daytona Beach, Fla.

John Olson replies: *Tinted lacquers are manufactured by: Westfield Chemical Corp., 221 Union, Haverhill, MA 01830 and Mohawk Finishing Co. Perth Road, Amsterdam, NY 12010. Wood stain and stains for lacquers are made by: H. R. Behlen and Bros., P. O. Box 698, Amsterdam, NY 12010, E. I. de Nemours Dupont and Co., Inc., 1007 Market Street, Wilmington, DE 19801 and Red Spot Paint and Varnish, Inc., 110 Main Street, Evansville, IN 47706. A letter to the Customer Relations Department of any of these companies is sure to bring you the name and address of their nearest retail dealers.*

I am looking for a furniture repair book, one that is complete in every respect of furniture repair and refinishing. Can you help?

William Surovik, Sonora, Calif.

John Olson replies: *One of the best books on furniture repair and refinishing that has been published in the last twenty-five years is titled "The Furniture Doctor" by George Grotz. This book is clearly written, and at times, very amusing. It's published by Doubleday and Company, Garden City, NY.*

I have a coffee table in my living room which is badly in need of refinishing. The top has a leather surface with a gold pattern around the edge and I'm in doubt as to what to do to restore the piece without damaging the leather.

Jeffrey Smith, Prospect, Conn.

John Olson replies: *This can be a tough job. If the old finish is to be removed I suggest you use a cotton-tipped swab, or something similar to clean the edges next to the leather. It's important to be ever so careful not to get any paint remover on the leather.*

*Another approach is to use a very fine sandpaper to remove the old finish, sanding very carefully along the edges of the leather. The same approach applies to refinishing the wood. Be very careful not to get any wood finish on the leather. After the job is finished, the leather can be cleaned with a solution of alcohol and water - with or without saddle soap. Don't try to use masking tape. It won't work. The oils in the leather prevent the tape from making a really good seal and finish will invariably creep under the edge of the tape and spoil the appearance of the leather. Wood finishes that have penetrated leather are impossible to remove.*

I am trying to locate a source for thin wood to make Shaker boxes. Any information would be appreciated.

Shirley Probst, Dallas, Tex.

*The company Shaker Miniatures, 2913 Huntington Road, Cleveland, OH 44120 carries thin (1/32 in. to 1/4 in. thick) hardwoods. Write to them for more information.*

In the "Letters" section of your May/June 1983 (page 6) issue was an editor's note regarding the use of lid support hardware for toy chest safety. I agree completely with the Consumer Product Safety Commission but have been unable to find any kind of lid support. Can you tell me where they can be purchased?

John Murphy, Livermore Falls, Maine

*Lid supports can be ordered from Carlson Capitol Manufacturing Co., P.O. Box 6165, Rockford, IL 61125. Write to them for more details. Enclose 25¢ for postage.*

I consider your publication a valuable reference for my shop, especially as a result of the detailed drawings frequently featured on items I like to build. The advantages of a detailed and dimensioned drawing are obvious: items are proportioned, material needs are outlined and the final fit of the parts is assured if plans are followed -- or so one would assume. This was not the case with the swinging cradle plans featured in your May/June 1982 issue on pages 26 and 27. Item "G", the Upper End Rail, did not fit upon fi-

nal assembly as a result of a dimensioning error on your plans. In retrospect, the error is so basic I almost blame myself for not realizing it during construction. The plans call for 34 identical spindles, 12 of which will fit between the Upper and Lower End Rails. The fact that similar spindles fit between the Upper and Lower Side Rails and these rails are slanted 10 degrees from the vertical dictates the end rail spindles be shorter if a match at the corner post is desired. If all spindles are made the same length (10 5/8 in.) the mismatch at the corner post is 3/8 in. plus. As I followed the instructions and preassembled the spindles to the side and end rails before attempting to dowel these sections to the corner posts (Sketch A), I did not discover the error until it was too late. My solution was found in cutting the spindles (A) free from end rails C & G, shortening 12 spindles by 3/8 in., drilling the ends of the spindles for 5/16 dowel and redrilling the end rails for a 5/16 dowel. The project was salvaged but as a craftsman I get little satisfaction when I know it's a patch-job.

Bob Schaefer, St. Louis, Mo.

*We regret this error and apologize to Mr. Schaefer and any other readers who faced his same dilemma. Certainly, to be of any value, woodworking project plans must be clear, complete, and accurate. At "The Woodworker's Journal", we make every effort to meet that criteria, however, as Mr. Schaefer can attest to, we occasionally do make mistakes. Our thanks to him for bringing it to our attention.*

I have been looking for an outlet to buy the hardware for a baby's crib but have been unsuccessful to date. Can you help?

Steve Sonner, Bluffton, Ind.

*The Woodworkers' Store, 21801 Industrial Boulevard, Rogers, MN 55374 sells all necessary hardware parts to make a complete crib. Price for a complete set of parts is \$47.95. To get more details, send \$1.00 for a copy of their current catalog.*

My brother builds models of old sailing ships and is trying to find a source for small figures of sailors. Can you help?

Mary Moran, East Hartford, Conn.

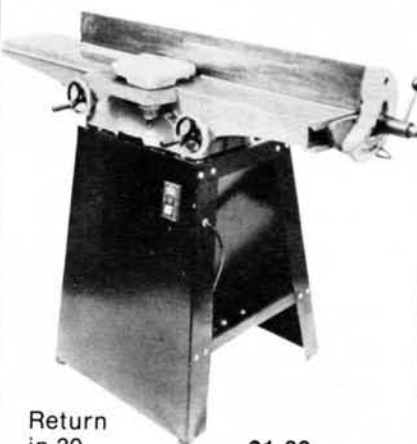
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(continued on page 10)

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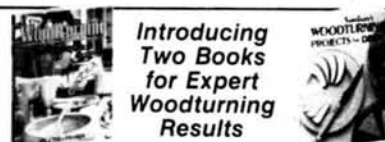


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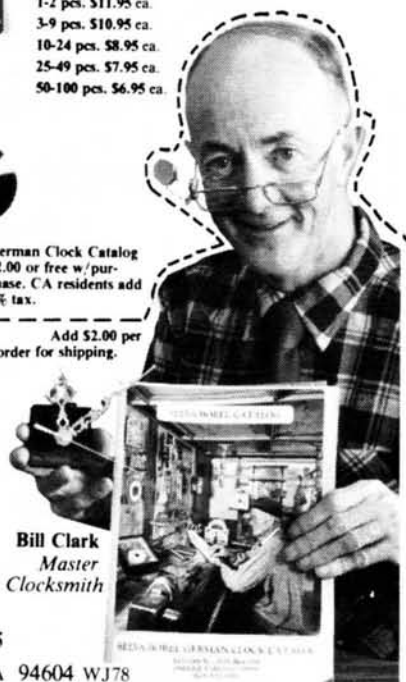
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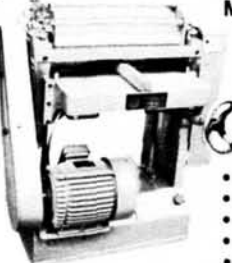
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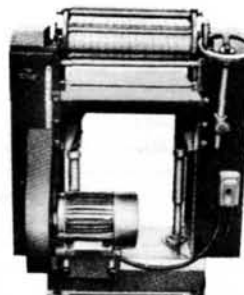
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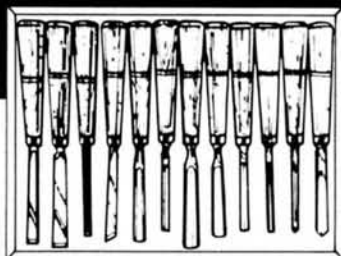
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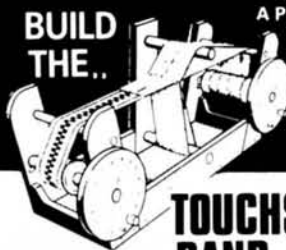
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Gene Weinberger  
Chairman

I need a parts list and/or instruction manual for a 10 in. Walker-Turner table saw, model number 2220.

Jerry Lehner  
9580 Frost Road  
Saginaw, MI 48603

I have a Sears Craftsman 18 in. jig saw, model number 1030407. I'm interested in obtaining a maintenance manual and would appreciate hearing from a reader who has one.

A. A. Black, Jr.  
P. O. Box 163  
Dora, AL 35062

I'm attempting to locate an owner's manual and parts list for a Power-Kraft jig saw, model no. 25T6G2370A. This saw was made in Canada in 1952. Any information would be welcomed.

Richard L. Roulet  
4142 North Elsie  
Davenport, Iowa 52806

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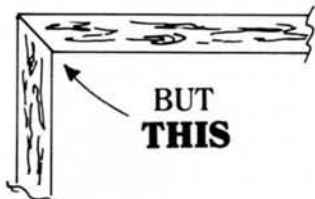
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# Workshop Income

by Paul W. Kellam

## Keep Track of Costs or You'll be Overtaxed

When a cupboard you made is sold and money comes in, most likely you'll think in terms of having exchanged a cupboard for dollars.

It would be more accurate to think of it not as a cupboard but as a top, a back, two sides, two shelves, two drawers and four legs. But that would disregard such things as cutting, sanding, fastening together, and finishing -- the artistry, skill and labor elements that have become part of the cupboard. It would also disregard such things as designing the piece, organizing the work and finding a customer -- more artistry, plus administration. And it would also disregard such hard-to-pin-down things as tools and shop "consumed" in the process -- the overhead elements.

What you have sold, actually, is value you have added to lumber by rearranging, reshaping and beautifying it. And what the customer has received is much more than wood, much more than merely a utilitarian device in which to store things. If that's all there were to it a stack of orange crates might do.

The artistry is the best part. It's intangible but it's what multiplies the value of the wood. You've added a piece of yourself to every square inch.

It's the value of the artistry that we've been concentrating on in these columns in past issues. For that artistic value added is the real value of the created piece and a value that many woodworkers -- unfortunately -- frequently underestimate. Indeed, as we've said, if you don't price your work high enough to capture all the hidden costs of production (overhead, investment, administration, etc.) in effect you are devaluing the artistry that you've put into the piece. And that, after all, is the most precious asset you have to sell.

If you don't appreciate this, you should, for Uncle Sam does. He will let you write off the value of the wood and other materials as business expense. He won't tax that. But he does want a piece of the action of the value you've added to it personally.

You can even write off artistry you've paid others to add. Those are labor costs. Uncle has his ways of extracting his pound of flesh from them. (You help, of course, by deducting taxes from your workers' pay). But you can't write off the value of your own contribution. And thanks to our system of graduated tax rates, the bigger your contribution is the bigger the share Uncle wants.

All of this is to emphasize that virtually every cost that goes into that cupboard, except for your personal contribution, is tax deductible. That means that every cost not kept track of comes out of your talented hide, which makes for a sad state of affairs. It forces us to keep track of every nickel and dime of cost -- to keep books. I'd rather be working wood. But without good bookkeeping I'm sure to pay Uncle more than I owe.

The Internal Revenue Service really isn't interested in the time or skill you put in, measured in hours. All they care about is the difference between what the product cost you in dollars to make and what you sold it for. The difference is presumed to be your skill, your labor, and that's what is taxed. So it makes sense to account for all the dollar costs you can. Two areas in which dollar costs often get over-

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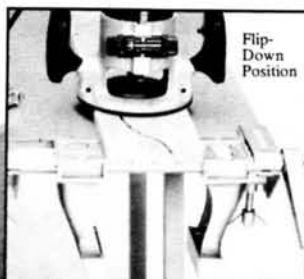
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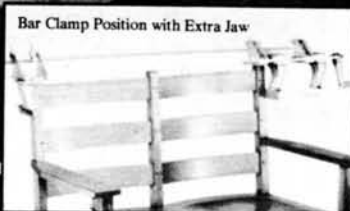
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## Workshop Income (Cont'd)

looked are inventories and depreciation.

You'd be surprised how many businessmen, by failing to keep meticulous account of every materials and overhead expenditure so as to be able to charge those to the business, wind up paying income tax on items of deductible cost.

Income taxes apply whether your workshop income is a sideline or whether it's the way you make a living. It's more complicated -- but in a way more important -- to keep track of things when the business is a sideline than when it's full-time. It's more complicated because you have to apportion certain costs, like depreciation, supplies, and housing the shop into personal and business categories. You can deduct only the business portion. It's more important to keep track of it all because workshop income added to employment income is likely to mean a higher tax bracket. So the more deductible costs you can wring out of the income the greater the taxes you save.

Either way you slice it, good records are the key. You should get advice from an accountant, for there are many judgment calls to be made about how you keep your records, about how you value certain things (inventory, for example), and about how you depreciate capital items (tools that are not used up within one year, for example).

The purpose of this discussion is not to bring you to conclusions about those things or to tell you how to keep books. It is, rather, to suggest some of the implications and some of the questions that should be put to an accountant who can take all of the aspects of your business and other income into consideration.

Whether you're part-time or full-time, and assuming that your business is not incorporated, you're required to file a Schedule C along with your personal Federal Form 1040 on April 15 of each year. It's entitled "Profit (or Loss) From Business or Profession." If you can show a loss you can deduct that from other income and figure taxes due only on the net. If you show a profit you must add that to other income and figure taxes due on the total. It's possible to have a small dollar profit but show a tax loss in a given year, but you have to show a taxable profit in two out of five years or Uncle won't consider it a real business.

In most states and localities that also impose personal income taxes you'll also have to file with (and pay) those taxing jurisdictions.

Schedule C is not difficult. Indeed, it's a good guide on which to base a bookkeeping system. Just keep in mind, however, that it's designed to present a picture of taxable costs, not the real costs we've been talking about in an earlier column.

If you don't have one already, by all means get a copy of a publication called "Tax Guide for Small Business," also known as Internal Revenue Service Publication 334. It's free and available from The Internal Revenue Service, Washington, DC 20224. Your local IRS office may still have copies on hand reflecting the tax laws in effect for 1982.

In general, Schedule C simply guides you through figuring the materials and labor costs assignable directly to goods sold. You deduct these costs from gross receipts. Then you subtract other costs not attributable directly to manufacture of specific items. What's left is net profit, and is taxable. That includes all the value added by your labor and your skill. It also includes any additional markup, or profit -- the return on what you have invested in the business.

In essence, a workshop business is manufacturing. Even if you sell at retail you're not merely buying goods and selling them. You're buying parts (lumber and hardware) and assembling them (after refashioning the lumber) into a manufactured product. So the first records that you must keep meticulously on the cost side are those that will enable

(continued on page 16)

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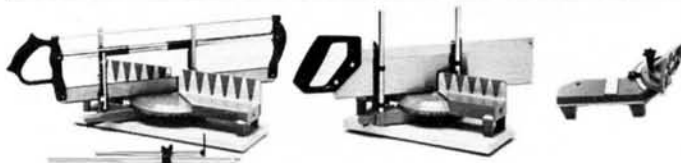
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## Workshop Income (Cont'd)

you to figure accurately what's called the "cost of goods sold and/or operations."

This number, which you arrive at on Line 8 of Schedule C-1 of Schedule C, is deducted from gross receipts to arrive at gross profit. From gross profit, business deductions are subtracted to arrive at taxable net profit or loss. So the cost of goods sold is a crucial figure.

The first line on Schedule C-1 of Schedule C is "Inventory at beginning of year." That is simple enough, but don't forget that it includes all kinds of inventory. In straight retailing there's only one kind -- finished goods waiting to be sold. In manufacturing you're likely to have three kinds of inventory -- raw materials (the lumber pile), work in progress, and finished items that have not yet been sold. The IRS doesn't care about the kinds, but you do. You add them all together to get the figure for Line 1 of Schedule C-1 of Schedule C.

If you deal only with the lumber pile you'll raise your cost of goods sold and avoid taxes that you should pay. That sounds great, but aside from the fact that it's against the law it will come back to haunt you the next year. Presumably your business will have grown and your sales will have increased. Unfortunately, your cost of goods sold, relatively, will be lowered and your taxes will go up. You could well jump into the next tax bracket, or even two.

You have to consider the part of the lumber pile that's cut up and waiting to be assembled (work in progress) and the part of the lumber pile that's been turned into cabinets and waiting to be sold as still part of the lumber pile. In general, unless you run a separate retail operation, you would value finished goods and work in progress at the value of the materials and paid-for labor (not your own) that is tied up in each item. That includes scrap that went into the stove.

Once you arrive at gross profit you deduct other expenses such as advertising, bad debts, car and truck expenses, depreciation, insurance, interest, legal and professional services, office supplies, rent, repairs, general supplies, taxes, travel and entertainment, and utilities. If you're a part-time business and use your shop for personal pleasure as well as to produce things for sale it gets somewhat complicated. You'll have to apportion such things as depreciation, interest, costs of housing the shop, and utilities between the personal use and the business use. Only the business portion can be deducted on Schedule C.

So how do you keep track of all this? Actually, it's not as difficult as it may seem. Since you have to report expenses on Schedule C it makes sense to keep track of them in the same form.

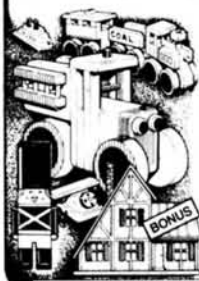
One way would be to get a columnar pad and make headings for each Schedule C item that applies to you. Put each expenditure on a separate row and enter the amount in the appropriate column. You can total weekly, monthly, quarterly or annually depending upon how many transactions you have.

Another way, particularly if the operation is quite small, would be a series of envelopes or file folders, each labeled with a category of expense. You simply file bills into the appropriate folder or envelope category, noting on them the date paid and the check number. Then you total the accumulation periodically.

Either way, it's essential that you have backup documentation for each expenditure. A receipted invoice or a check notation together with the cancelled check will do.

It's easy to overlook small expenditures -- a box of screws or a can of glue -- in the day-to-day rush of things. But those small items do add up over the course of a year and they are worth keeping track of. Remember, any expenditure that you can't prove will ultimately show up in the figures as your woodworking skill. It may make you feel good to see a big number that represents your artistry. But don't forget that that's the number that will be taxed.

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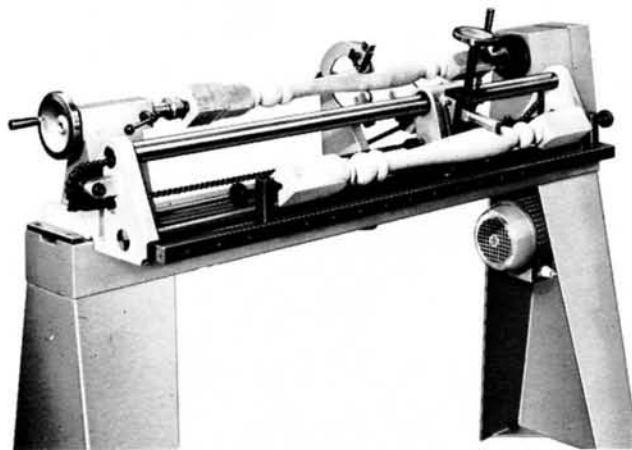
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# Restoring Antiques

by John Olson

## Some Spraying Techniques

It is very difficult to do a satisfactory job when using a brush to apply most modern clear finishes. From my point of view, brushing should be used only as a last resort. Properly applied with a spray outfit, such problems as sags, runs, brush marks and the like are absent.

The first step is to make sure your spray equipment is clean and operating properly. Check the tank and scrubber waste cocks for water and oil. Any of either in your final finish can cause a lot of trouble. Avoid using any kind of silicon lubricants on the gun or the compressor. Silicon compounds cause fish eyes that are very difficult to repair. Don't apply clear finishes at more than fifty pounds air pressure. Higher pressures are likely to cause ripples and make applying excess finish very easy.

Try to arrange the work so that the surface being sprayed is horizontal or nearly horizontal. This position will eliminate sags and runs and allow the wet finish to level. If possible, dismantle the piece to be sprayed. Finish each piece separately but at the same time as the others using the same material, mix, viscosity and air pressure.

Temperature is also important. Most clear finishes become viscous at temperatures of less than 70 degrees. Viscous material will not flow and level. If it is absolutely necessary to spray at a lower temperature, the material being sprayed should be thinned until it vaporizes and comes out of the gun in an acceptable manner. However, highly thinned material has a tendency to dry to a duller than acceptable sheen and to display an uneven splotchy appearance. It's better to wait until things warm up.

When spraying a flat horizontal surface hold the gun about 8 to 18 inches from the work. It is necessary to experiment to find the best distance for a particular combination of gun and the material. Begin at the edge nearest you and spray with the grain. Work from right to left or left to right on the first stroke, whichever feels most natural. On the succeeding stroke return in the opposite direction covering the area just above the first. Overlap each stroke approximately one third of the last strip. This overlapping is necessary to produce full coverage as the edge of the spray pattern feathers out and has little covering ability near the edge of the pattern. When carrying the gun along each stroke, hold it as near to right angles to surface being sprayed as possible. On horizontal surfaces this will be approximately 45 degrees.

It is important to maintain the same distance between the gun's nozzle and the surface being sprayed. Everyone has an initial tendency to swing the gun in an arc so that the beginning and end of each stroke finds the gun's nozzle further from the surface than it was when it passed the middle. Consequently more material is deposited in the middle than at the ends of the stroke, resulting in uneven coverage. When the edge of the surface is reached the stroke must be carried beyond this edge before the gun's trigger is released. The reason for doing this is to prevent flooding the surface when stopping to come back again. Edges should be lightly and rapidly sprayed before the main surfaces are covered so as to prevent flooding the main surface.

Vertical surfaces are best sprayed by beginning at the top and working downward. Slant the gun down so as not to splatter the sprayed surface above. Decorative carved edges, recessed panels and similar constructions should be sprayed rapidly and evenly with the gun pointing away from already sprayed surfaces. These edges will have already received some spray as the adjoining surfaces were covered. The object here is to touch up without flooding the already sprayed surfaces.

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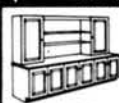
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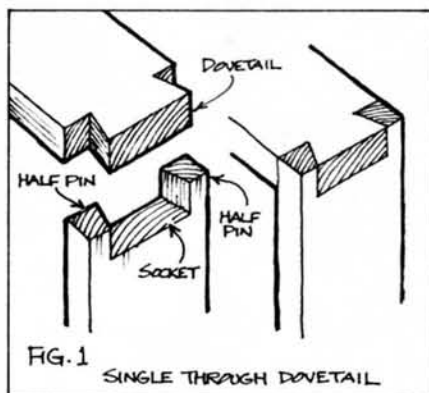
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# The Beginning Woodworker

## Dovetail Joints: Part One Cutting the Single Dovetail

The dovetail joint has been considered a hallmark of fine cabinetwork for centuries, and for good reason. In terms of strength and visual appeal it's a superb joint. Unfortunately, many novice woodworkers look upon this joint, particularly in its multiple forms, as some sort of ultimate test of wood-working skill. Actually, most forms of the joint are no more difficult than the mortise and shouldered tenon joint.

There are many variations of the dovetail joint; each of which is suited to a particular application. The simplest form is the single through dovetail shown in Fig. 1. This is simple to



make, and the much admired multiple version is more difficult only in the sense that it takes longer to execute and the chances for a bad cut are increased.

Successful dovetailing, like all other joinery, is the result of practice. The best approach for the novice is to practice cutting a few single dovetails with hand tools. Once the single version has been mastered, the multiple forms will seem much less formidable.

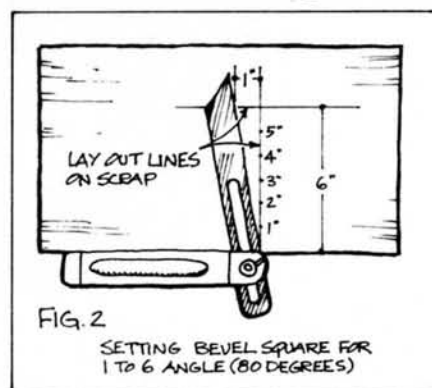
Practice with both hard and soft woods. A few sessions will give you a feel for the work and the confidence to substitute these joints in projects where less efficient or attractive joints are shown in the plans.

Starting with the basic through dovetail, we can see that it is a "through" joint because both parts go completely through each other. This joint is excellent for joining two narrow boards at right angles. It can be pulled apart in only one direction though the addition of glue makes the joint very secure. A locking dowel pin through both members guarantees that the joint will not pull apart, even if the glue fails.

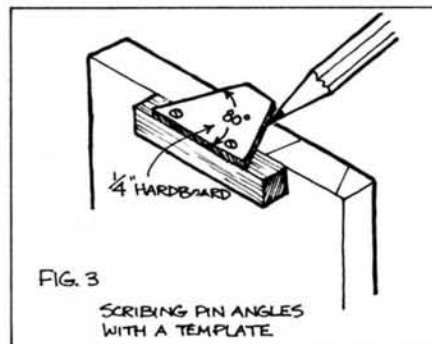
Before laying out this joint (or any other dovetail joint), several important preliminary steps must be taken. The joining boards must be dressed flat and square and they should also be

sanded before joining. We must also decide on the proper amount of flair of the dovetail sides and half-pins and how to space them. The flair or angle of the dovetails has been determined through trial and error centuries ago. Too little angle lessens the security of the joint, while too great an angle invites breaking off of the sharp dovetail corners.

The most practical choice is an angle of about 80 degrees or, expressing it another way, a taper of 1 to 6. A bevel square can be used to mark the dovetail angles and pin sides. Set the bevel square to 80 degrees with a protractor or to a 1 to 6 taper by marking perpendicular lines on a piece of scrap. The vertical line is divided into six equal parts (for our example, let's use inches as a unit) and the horizontal line is marked at a point one inch from the intersection of the lines (Fig. 2).



The bevel square is held against the edge of the scrap and the blade is set to intersect the points as shown. To save yourself the bother of going through this procedure for every project, it's helpful to make a simple template as shown in Fig. 3.

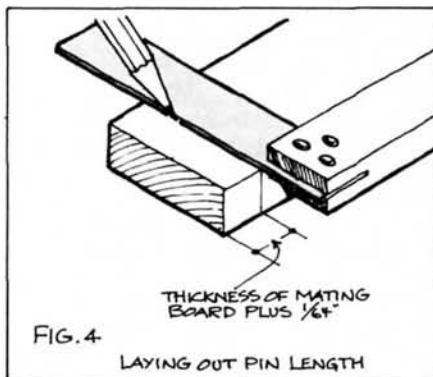


Dealing as we are with a single dovetail, spacing isn't much of a problem but it is visually important when multiple dovetails are involved. Generally, the dovetails should be at least three times wider than the pins; measuring the widest part of each. It's always best to avoid having the tails and

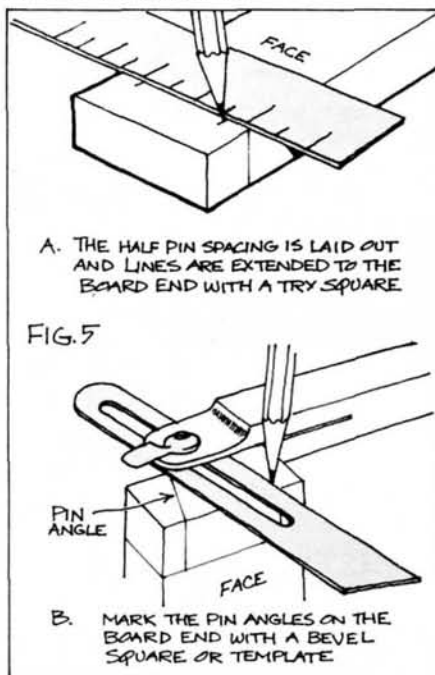
pins equal in size which results in an uninteresting machine-made look.

There has always been some dispute as to which is best laid out and cut first, the dovetails or the pins. Each method has its merits and drawbacks but most craftsmen prefer to start with the pins. Some forms of the joint require that the tails be cut first.

Take the board that will have the half pins and give it identifying marks to remind you which is the face side. Begin by squaring a line (use a sharp, hard pencil) around the end of the pin board at a distance from the end equal to the thickness of the mating board plus about 1/64 inch extra (Fig. 4).



This little extra length will insure that the pieces will go completely through each other. After assembly, the slightly protruding pins and dovetail can be cut flush. This is easier than having the pins and tails recessed which will require that the face sides of the boards be planed down, thus altering the finish dimensions.



Having decided on the size and spacing of the dovetail and two half pins, transfer these measurements to the face side of the pin board (Fig. 5A). Using the try square, run these points to the end of the board. Next (continued on next page)

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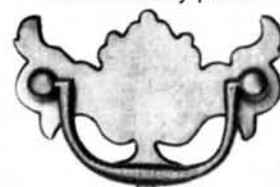
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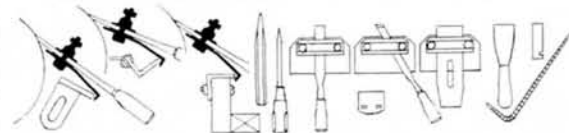
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## Cabinetmakers' Supplies

### Hardware Suppliers

As a service to our readers, *The Woodworker's Journal* periodically lists sources of supply for various woodworking products. In this issue we are listing companies that specialize in mail-order sales of furniture hardware. While we don't have the room to mention all the products each company carries, we have tried to list at least some of them.

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### Beginning Woodworker (cont'd)

use your bevel square set to a 1 to 6 taper to mark the pin angles on the end grain (Fig. 5B).

The next step is to make the two saw cuts establishing the angled sides of the pins. It's easy to keep track of which is pin and which is waste with a single dovetail but it can get confusing with multiple dovetails so it's best to get into the habit of marking the waste with an "X".

Your task now is to make the two cuts as accurately as possible. Use a fine tooth backsaw with a handle similar to a common panel saw. Other saws can be used but the type shown offers the most control.

Clamp the pin board vertically in the vise with the face side towards you and lay the saw blade on the end grain on the waste side of, and grazing the angled pin line. Use your thumb as a guide for the blade. Tip the front of the blade down and with a very light stroke start a groove on the far corner of the board so the blade does not obscure the cutting line. When a shallow groove has been made, tip the blade down and towards you and continue cutting a groove across the end grain.

Once you've cut the end grain at the proper angle, it's not difficult to continue a vertical cut to the depth line. Fig. 6 shows the sequence of cuts.

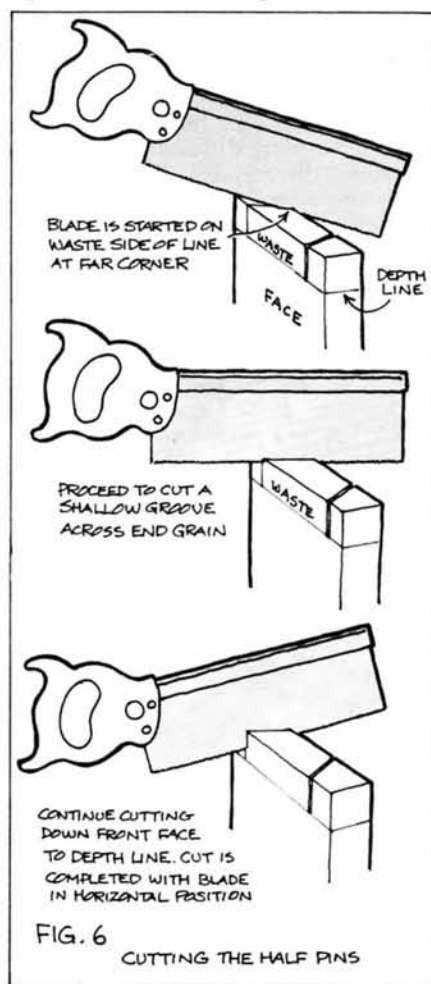


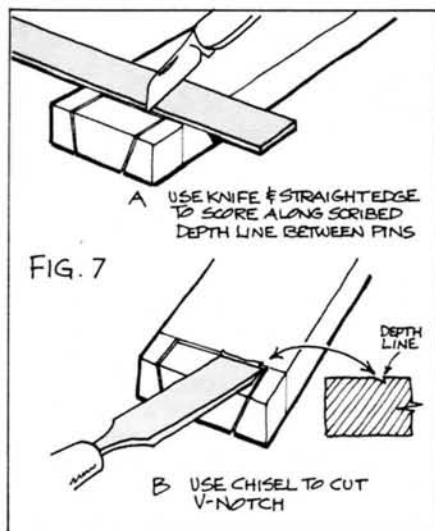
FIG. 6

CUTTING THE HALF PINS

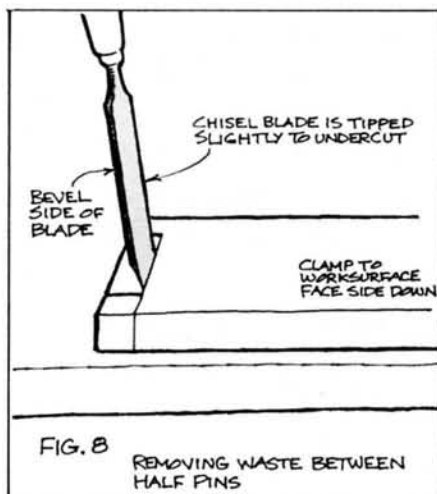
The waste between the cuts is removed with a chisel and mallet. In this

case the waste piece is quite wide so you will want to use a wide chisel for most of the work.

Clamp the pin board to the bench face side down, and use a sharp knife to score the original pencil line at the base of the waste (don't score across the pin bases). Take care to cut right on the line, then with the bevel of the blade down, use a chisel to make a V-cut into the line (Fig. 7 A&B). This prevents the grain from splintering out behind the line.



Now lay the flat of the chisel against the back of the slight V-notch and tilt the handle slightly toward the board end. This slight angle of the blade will form an undercut which will insure that the joint pulls up tight (Fig. 8).



A few taps of the mallet are sufficient to start. The chisel is then brought around and placed flat side up against the end grain. A few light blows will lift the chips out (Fig. 9).

This process is repeated until you've gone halfway through the thickness of the board. Then the board is flipped over, clamped and the process is repeated on the other side, cutting first into the face in an undercut followed by cutting into the end grain. When finished, the base of the socket should

(continued on next page)

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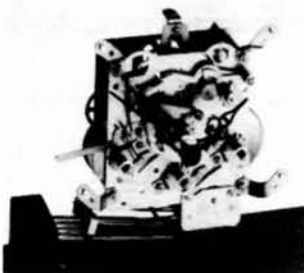
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## Beginning Woodworker (cont'd)

be slightly V-shaped.

There will still be small amounts of waste remaining in the corners. These can be cleaned out with the chisel. If the inboard sides of the half pins are not perpendicular to the joint depth line, they should be pared down carefully with the flat side of the chisel.

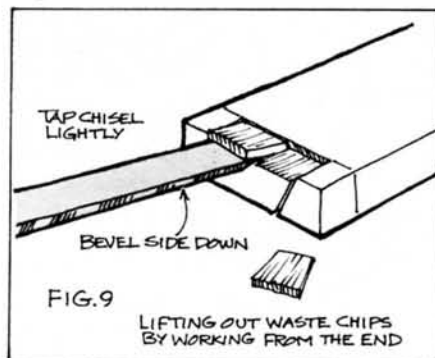


FIG. 9

LIFTING OUT WASTE CHIPS  
BY WORKING FROM THE END

The next step is cutting the dovetail on the end of the mating (dovetail) board. Again a depth line is scribed around the board a distance from the end equal to the thickness of the pin board plus 1/64 inch. The dovetail board is laid face down on the bench and the pin board is held in place on it as shown in Fig. 10 while a sharp pencil is used to scribe the shape of the pins on the dovetail board. Do your scribing from the inside corner of the joint so the pencil point will not be inclined to run off with the grain. After the pins have been traced, use a try square to continue these lines across the end grain. Mark with an "X" those portions on each side of the dovetail that will be cut away.

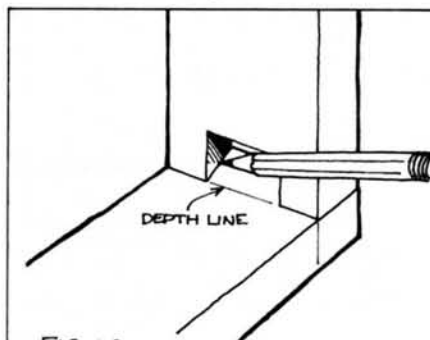


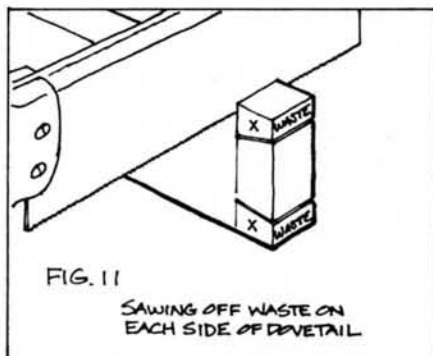
FIG. 10

THE CUTTING LINES FOR  
DOVETAILS ARE SCRIBED  
BY TRACING AROUND PINS

Place the board in the vise with the back (scribed) side facing you and tilted so an angled line is vertical. The procedure for sawing is the same as described in the pin cutting operation. Once the groove is established in the end grain, the cut is continued down the side facing you to the depth line. When the cut is completed, reposition the board on an angle for the second cut.

The waste on each side of the dovetail is removed by placing the board horizontally in the vise and making a vertical cut on the waste side of the

joint line (Fig. 11). Any small amount of wood left in the corner is removed with a chisel.



The joint should be ready for a trial fit. Use a protective block and mallet to tap the joint together. If it seems too tight, take it apart and pare a bit off the dovetail. When applying glue, spread a bit on the sides of the dovetail. The bottom of the dovetail socket is end grain so glue spread there serves no useful purpose. Use a square to check the trueness of the joint before the glue sets up.

Usually, when making dovetail joints there are three other corners to contend with; then all joints are cut, glued and clamped up at the same time. After the glue cures, use a block plane set for a light skew cut to shave down the slightly protruding pins and dovetail. Plane in from the edge of the pins and tail to avoid splintering. A cabinet file or belt sander can also be used but care must be taken to avoid marring the board faces.

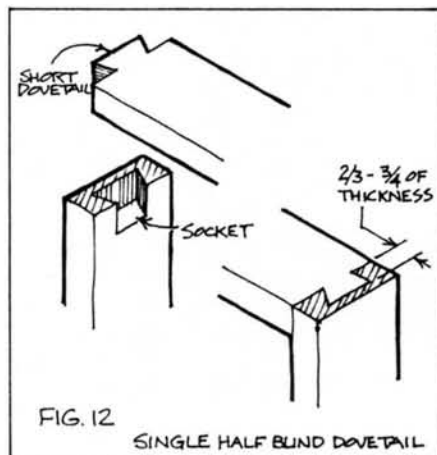


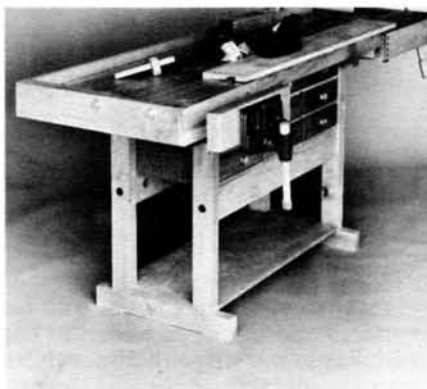
Fig. 12 shows another useful version of the single dovetail. In some furniture work it is preferable to conceal the end grain of the dovetail and in this situation, the half-blind single dovetail fills the bill. It's a good choice for joining rails to legs.

Lay out the flared dovetail so that it extends  $\frac{2}{3}$  to  $\frac{3}{4}$  into the thickness of the member receiving it. The remaining web conceals the end grain of the dovetail. With this joint it's better to lay out and cut the dovetail first and

(continued on page 49)

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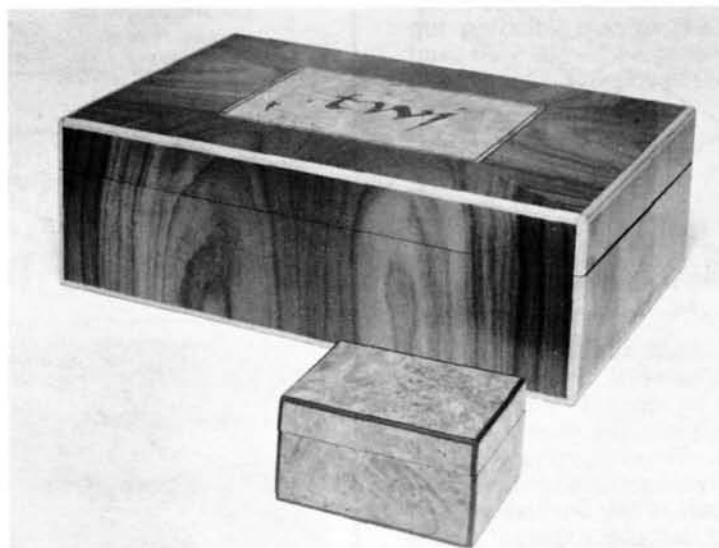
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I make a lot of small boxes with fancy veneers and prefer to inlay the edges with hardwood strips, both for protection of vulnerable edges and to provide an interesting accent. Veneered edges can take very little sanding without cutting right through the veneer, but edging strips can be nicely rounded over if desired.

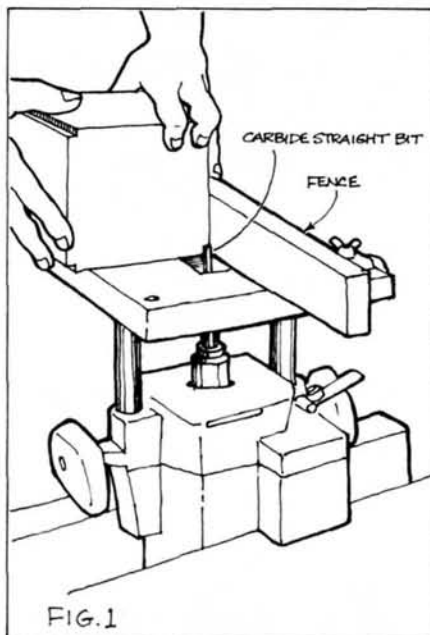
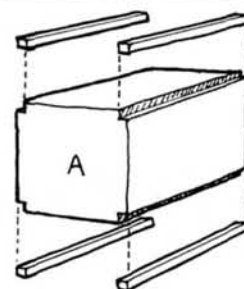


FIG. 1

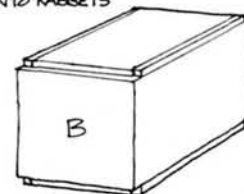
I use hardwoods such as maple to edge dark veneers and ebony which contrasts nicely with the light veneers. The edging stock is resawn into thin square strips slightly larger in section than the rabbets into which they are glued. My strips run from 3/16 to 3/8 in. square to fit in rabbets from 1/8 to 5/16 in. respectively. The size of the strip depends on the size of the box.

After the box has been veneered, but before the lid is cut off, the edges are routed. I use a straight carbide bit and mount my router upside down in a vise with an edge guide on the base to serve as a fence (Fig. 1). A router table with a fence is excellent for this work. Some routers have finicky depth adjustments so several trial cuts are usually necessary to arrive at the 1/8 x 1/8 in. cut that I generally use for small

FIG. 2



ROUT 4 HORIZONTAL  
EDGES AND GLUE  
STRIPS INTO RABBETS

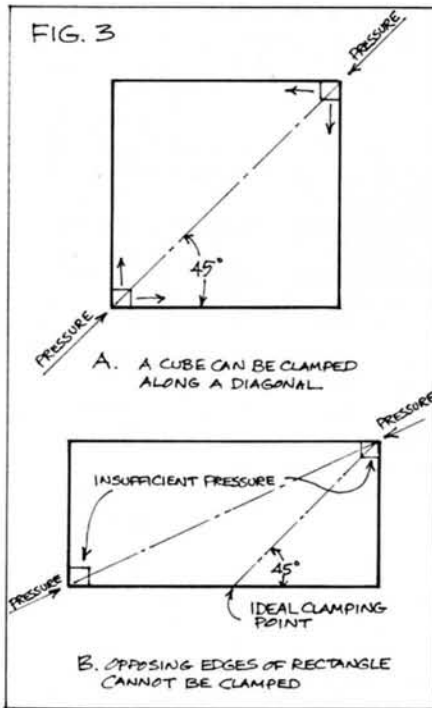


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EDGES AND INSERT STRIPS.  
4 VERTICAL EDGES ARE LAST.

boxes. On larger boxes and cabinets, I've used edging strips from 1/4 to 5/16 in. square.

There are three sets of four edges for a total of twelve edges to be rabbeted. First, rout four horizontal edges. Whether the box forms a cube or rectangle, it doesn't matter which horizontals you do first except that you can

only do four. Fig. 2A shows the front and back edges routed first. These must be inlaid and planed flush before the other four horizontal edges are routed (Fig. 2B). The four vertical edges are done last.



Inlaying box edges involves two problems: one is bringing even clamping pressure to bear on the strips and the second is bringing the inlays flush with the veneered surface without damaging the veneer.

To apply equal pressure to both surfaces of a square inlay strip, clamping pressure must come along a diagonal that bisects two opposing edges. With a cube, clamping isn't really much of a problem. If the pressure is applied on a diagonal between the edges, the strips will be forced against both surfaces of the rabbets (Fig. 3A).

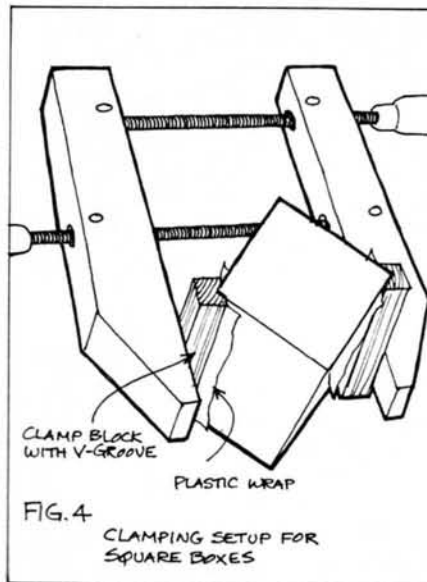
If a rectangular box is clamped this way, insufficient pressure will be applied along one side of the strips and they will have a tendency to tip (Fig. 3B).

Fig. 4 shows a simple method I use to clamp up cubes. Two 1 x 1 in. clamping blocks are V-grooved to fit over two opposing edges. The clamping strips are slightly longer than the inlays. Glue is applied to the rabbets and the inlays (which should be slightly longer than the rabbets) are set in place. Strips of plastic wrap are laid over the edges to prevent squeezed out glue adhering to the clamping blocks, and a large handscrew is used to apply pressure.

I usually use yellow glue which sets up in my warm shop in about two hours. The protruding inlay ends are sawed off flush and the sides are planed just short of flush with the box surface. The last tiny bit is taken down

with sandpaper and a stiff cork block.

When planing, I use a small sharp block plane set for a very light cut and



I skew the plane so that a corner of the blade doesn't catch the veneer. When the first four strips have been finished, the next four horizontals can be routed as shown in Fig. 2B, then inlaid. After the horizontals are inlaid and brought flush, the process is repeated with the vertical edges.

Clamping inlaid strips on rectangular boxes requires a different approach as the handscrew clamp can't be used. Probably the easiest and most practical method is to use webbed belt clamps or masking tape wrapped around the box to clamp four parallel strips simultaneously. The belt clamps provide adequate pressure in the right directions but they require a lot of fussing and three or more clamps may be needed depending on how long the inlay strips are.

Masking tape provides minimal pressure but if the strips fit the rabbets perfectly, this method will work. The tape strips should be wrapped tightly around the box at regular intervals no less than one inch apart. The belt clamp or tape method can be used with cubes but I prefer the security of the handscrew clamp.

After all inlays have been applied and sanded down flush, I use sandpaper to round over the sharp corners. A generous rounding will make the boxes look better and be more inviting to touch.

The two boxes in the photo are two examples of inlaid edging. The large box, measuring 3 x 6 x 9 in., displays a central panel of maple burl. The remainder of the veneer is ebony and the edging strips are of maple. The small box is only 1 1/2 x 2 x 2 3/4 in. and is veneered with maple burl. The edges are inlaid with ebony.

Paul Levine

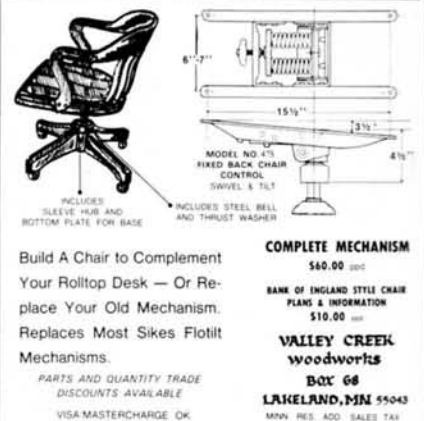
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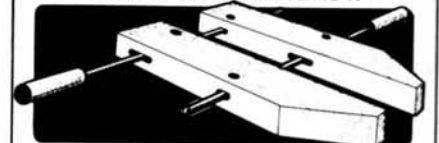
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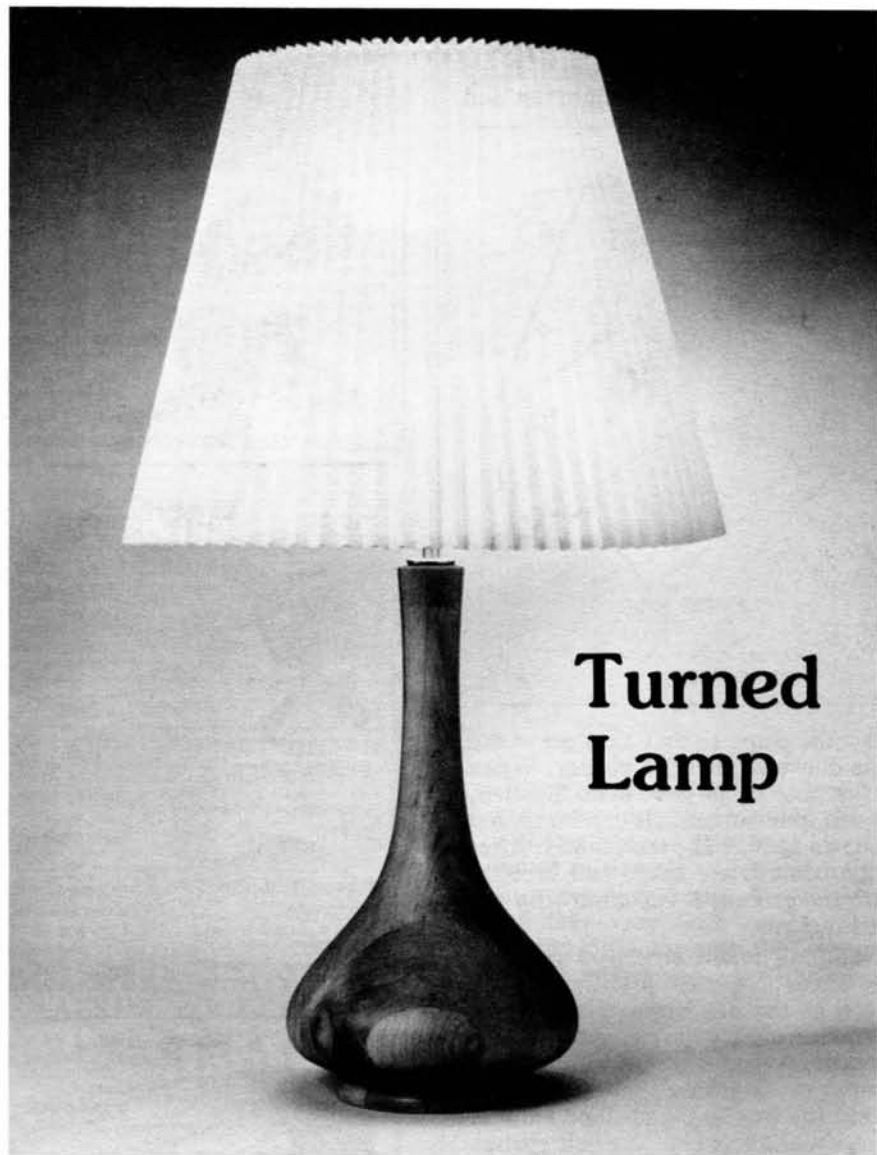
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## Turned Lamp

This graceful turning makes an especially nice lamp base. We used cherry, but maple or walnut will also look handsome.

It's important that the stock be glued-up according to the three-step procedure we've given. If it isn't, and the resulting mass is unbalanced, a great deal of vibration and shaking can occur as the stock turns.

Begin by cutting parts A, B, and C to the dimensions shown in the bill of materials. Assemble as shown in Step One, keeping in mind that only parts A and B are glued together. Since the spacer (part C) must be removed after turning (to form a cord hole) it is not glued. Instead, it is given a heavy coat of wax to prevent the glue from sticking. The wax will also make it easier to remove the spacer.

Clamp firmly and allow to dry thoroughly. When dry, joint one of the 2 1/2 in. wide edges, then use the table saw to rip the same edge on the opposite side. This ripped edge is then jointed. Just keep in mind that after jointing the assembly should measure 2 1/2 in. by 3 in., and the spacer should be centered.

Next, glue up parts D and E as shown in Step Two. Follow the procedure just described to joint the 2 1/2 in. wide edges. After jointing, parts C and D should measure 2 1/2 in. by 2 3/4 in.

The two part D and E assemblies can now be glued to the part A, B, and C assembly. Clamp securely, keeping the bottom edges as near to flush as possible. To keep the face edges flush, use a pair of hardwood stickers as shown. Use C-clamps to hold in place. Be sure to wax the stickers to keep them from sticking to the stock.

At this point, to insure a good, flat surface for the face plate, use the table saw to cross-cut the bottom end. Remove only enough material to square the stock.

Parts F and G can now be cut to size and assembled as shown in Step Three. Again use glue and clamps. It's important that all edges be flush, especially the bottom where the faceplate will be attached. Use stickers as necessary to keep everything lined up.

Locate the centerpoint of the bottom, then use a compass to scribe a circle equal to the diameter of your faceplate. (Ours was 6 in.) Use 1 1/2 in.

screws to securely mount the faceplate to the base.

Before attaching the stock to the lathe, it's a good idea to break the edges to minimize tear-out. We used a drawknife but the bandsaw, table saw or spokeshave will also do the job.

Next, mount the stock to the lathe using a dead center at the neck portion. The 16 in. length of stock allows 3/4 in. extra at the top and 2 in. extra at the base. Set the lathe at its slowest speed (ours was about 400 R.P.M.), then use a small (1/4 in.) gouge to rough out the stock. A small gouge will keep tear-out to a minimum. Once rounded, a 1/2 in. or 3/4 in. gouge can be used to finish roughing out the stock.

Next, determine the overall length of the lamp and use a parting tool to establish this dimension. Working from the parting line at the base, reduce the waste stock to slightly more than the diameter of the faceplate. This step will allow you to undercut the bottom. Use a 1/2 in. round nose to scoop out the base approximately 3/16 in., leaving at least 1 1/2 in. stock diameter intact.

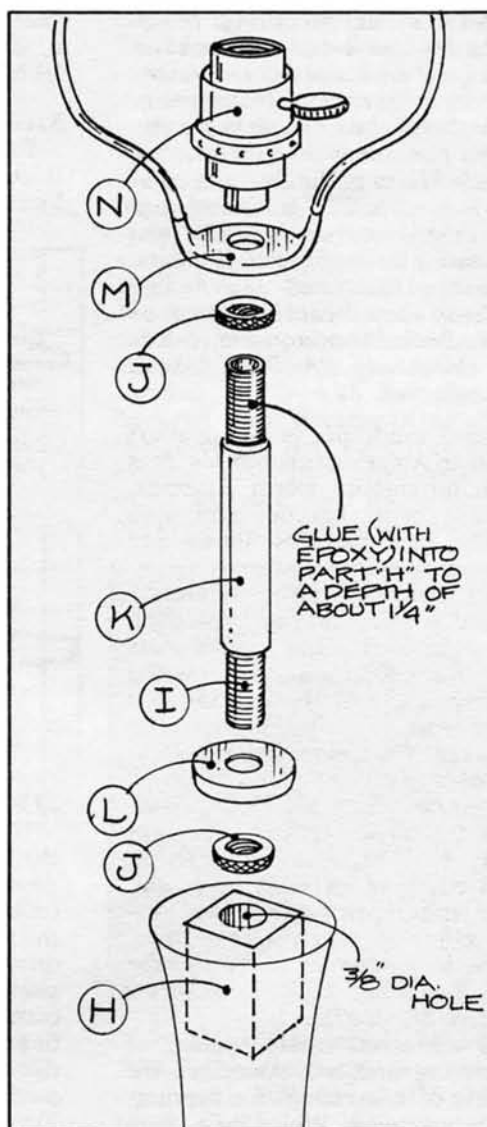
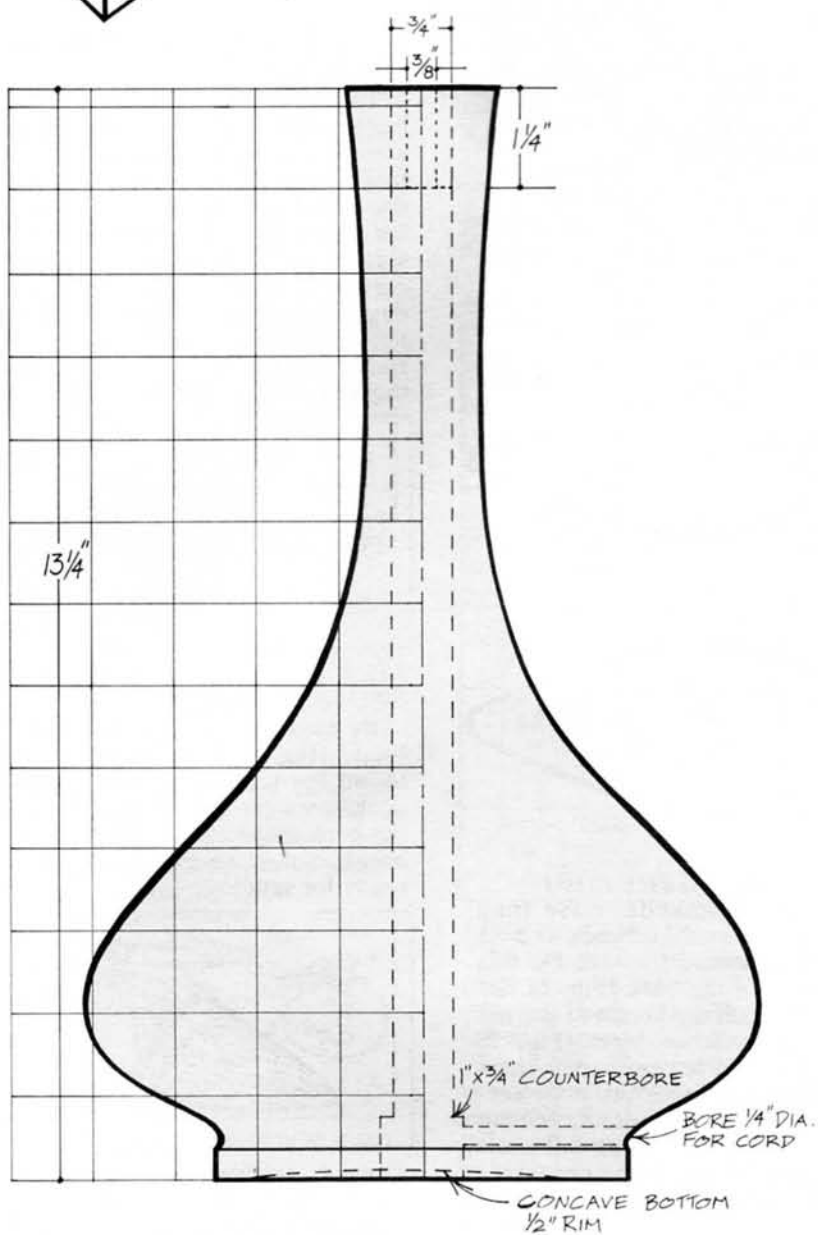
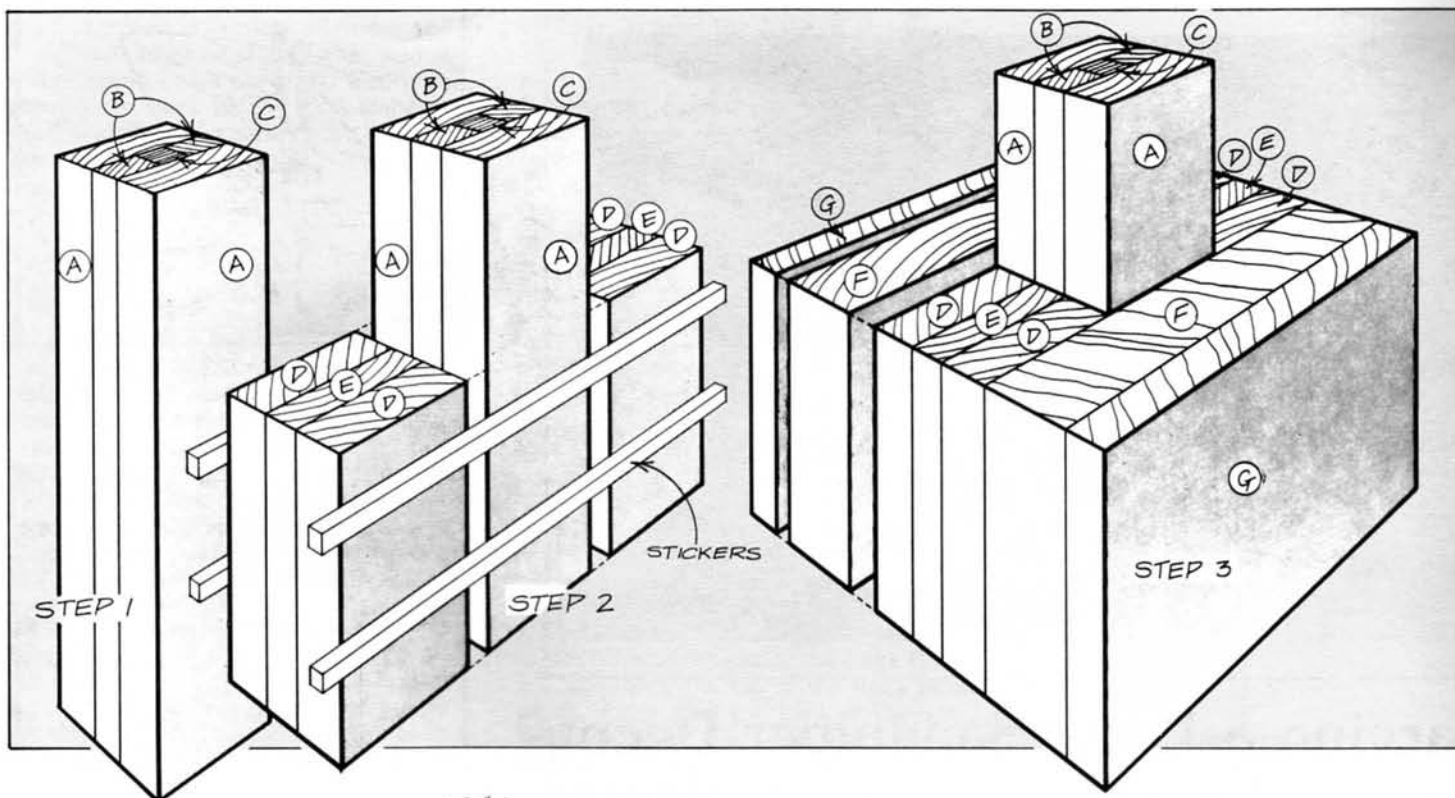
Fine turning is done with a round nose tool and a lathe speed of 1000 to 2500 R.P.M. Final sand, then remove from the lathe and cut off the remaining head and tail stock. Round the top of the neck with a file and sandpaper.

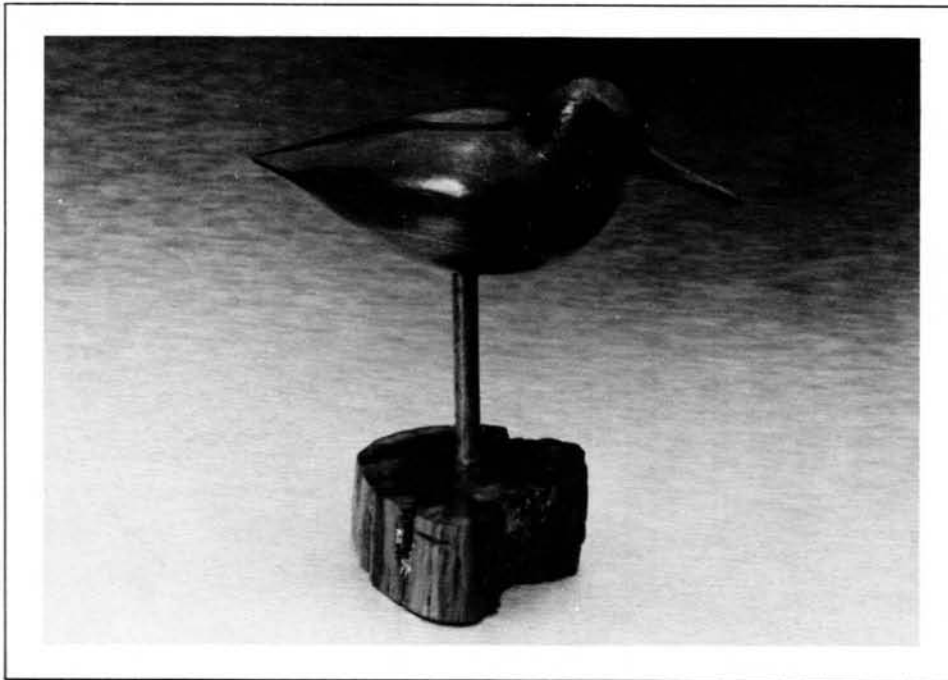
With a length of steel rod, drive out the spacer (C). Before part H can be added, all traces of wax must be removed from the area where this block will be glued in place. To remove the wax, use acetone or lacquer thinner followed by a light sanding. Epoxy the glue block in place, then drill a 3/8 in. diameter hole as shown.

A 3 1/2 in. length of threaded pipe (I) can now be epoxied to the glue block as shown. The lamp cord is then fed through the 1/4 in. lamp cord hole in the base and up through the neck and out the threaded pipe. The addition of the lamp hardware and a lamp shade completes the project. Wwj

### Bill of Materials (All Dimensions Actual)

| Part | Description   | Size                | No. Req'd |
|------|---------------|---------------------|-----------|
| A    | Turning Stock | 1-1/16 x 3 3/4 x 16 | 2         |
| B    | Turning Stock | 3/4 x 1 1/4 x 16    | 2         |
| C    | Spacer        | 3/4 x 3/4 x 16      | 1         |
| D    | Turning Stock | 1-1/16 x 3 x 9      | 4         |
| E    | "             | 3/4 x 3 x 9         | 2         |
| F    | "             | 1 3/4 x 8 1/2 x 9   | 2         |
| G    | "             | 1-1/16 x 8 1/2 x 9  | 2         |
| H    | Glue Block    | 3/4 x 3/4 x 1 1/4   | 1         |
| I    | Threaded Pipe | 1/4 I.P. x 3 1/2    | 1         |
| J    | Brass Nut     | 1/4 I.P.            | 2         |
| K    | Brass Tubing  | 1/2 O.D. x 2        | 1         |
| L    | Check Ring    | 1 1/2 Dia.          | 1         |
| M    | Harp          |                     | 1         |
| N    | Socket        |                     | 1         |





## Carving a Least Sandpiper Decoy

*Editor's Note: This carving project is one of ten featured in the book Woodcarving Illustrated by Roger Schroeder and Paul McCarthy. In addition to the projects, the book includes a good basic section on materials and techniques for woodcarving. We've included the 12 steps necessary to make a handsome decoy. For those who would like to go further and complete a fully detailed least sandpiper carving (see photo on page 31) the book includes an additional 39 steps. Woodcarving Illustrated can be ordered from your local bookstore or Stackpole Books, Cameron and Kelker Streets, Harrisburg, PA 17105. Price is \$11.95, softcover.*

The least sandpiper is the smallest of the North American shorebirds. It is common throughout North America, seen along many beaches and mud flats. The grid patterns shown are scaled to make a life-size decoy.

Except for step 6, which requires a half-round gouge, all carving is done with a jackknife. Though it is the most difficult to handle, the jackknife is the most versatile tool in woodcarving. It's good for getting into small areas and crevices that are almost impossible to reach with other tools.

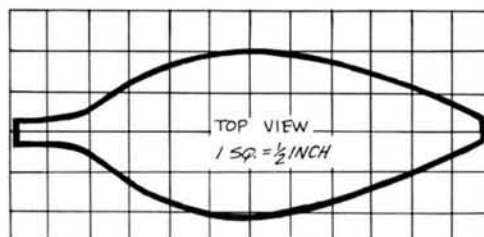
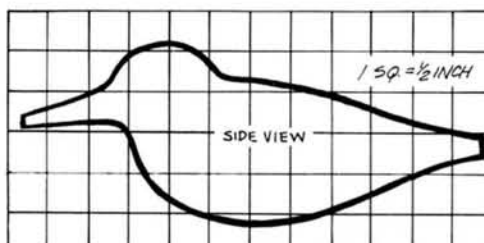
For people who carve birds, basswood is the choice. It is lightweight and very easy to work with carving tools. Because of its light color and grain tightness, paint will cover it easily and uniformly. *Editor's Note: Basswood can be purchased via mail-order from Constantine, 2050 Eastchester Rd., Bronx, NY 10401.*

There are some ninety species of pine growing in North America. We find some of it excellent for carving, particularly Eastern White Pine. It is

to hold together. Sugar pine should be avoided. It has a great deal of resin which will dull tools. Not only that, the sides of the tool will build up with resin, making it nearly impossible to push the tool through the wood.

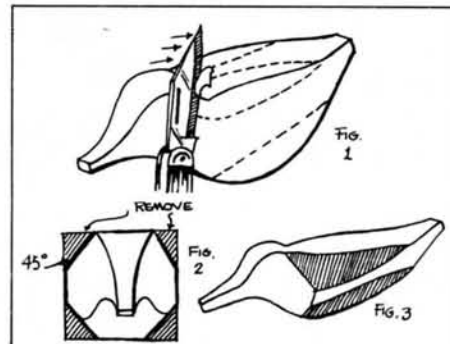
### STEP 1-A. CUTTING THE BODY

Bandsaw side view first from 2-inch thick wood, then transfer top view outline to wood and saw to shape.



### STEP 1-B. SHAPING THE BODY

With a sharp jackknife, carve from the back of the head and neck at a 45 degree angle toward the tail. Do this on both sides of the back (Fig. 1). Do the same cut from the breast to the tail on both sides. Front view (Fig. 2) shows the wood to be removed on the 4 corners. This will leave the body section with an octagon shape. Removing the wood equally on 4 sides will allow more equal rounding in the next step. Fig. 3 shows you the results of this



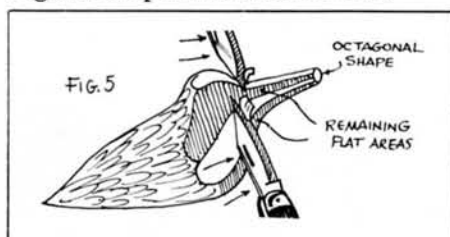
### STEP 2. ROUNDING THE BODY

Evenly round the body by taking the corners off your preceding cuts and continue to carve away all sharp corners until the wood feels round. As you round toward the tail make the end of the tail pointed. If this carving is done properly the body will be well rounded without any flat areas or saw marks as in Fig. 4.



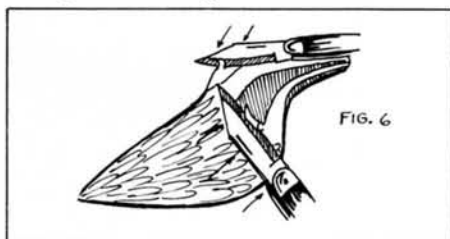
### STEP 3. ROUNDING THE HEAD AND NECK

Turn your bird around and hold body to carve away on breast. Carve at a 45 degree angle on both sides and remove wood from breast all the way to the end of the beak (Fig. 5). Be careful for a change in the grain. If the wood starts splitting away from the beak, try carving toward you. Remove a small 45 degree angle piece from the top of the head, continuing down to the end of the beak. Your beak should have an octagonal shape at its extreme end.



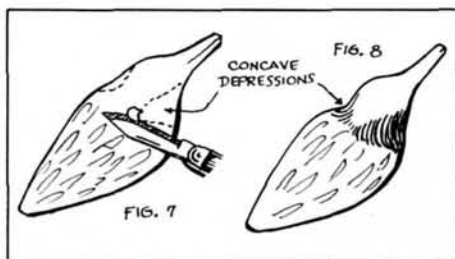
### STEP 4. ROUNDING HEAD AND NECK CONCLUDED

By carving away, round neck into breast (Fig. 6). By carving toward you, round the top of the head, down the neck, onto the back. Do not work on the beak area yet. The body, neck and breast should be evenly rounded and ready for sanding.



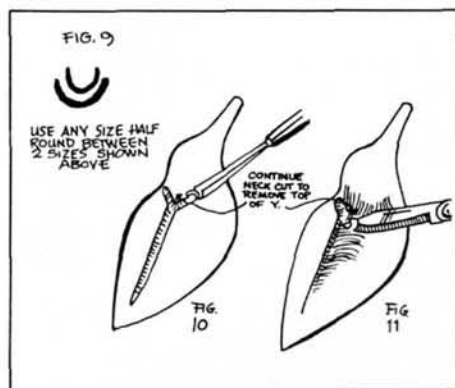
### STEP 5. ACCENTING THE SHOULDERS

to the body, on both sides carve a concave depression which narrows the neck and accents where the folded wings would be on the body. Continue around the back of the neck carving shallower than the side cuts (Fig. 7). Your neck shaping should look like Fig. 8.



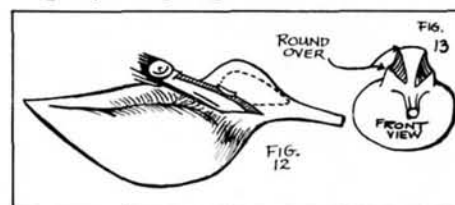
#### STEP 6. SHAPING THE BACK

Using a small half-round gouge (Fig. 9) carve a groove at the base of both sides of the neck (Fig. 10). Carve a similar groove down the middle of the back making the depth less as you near the tail. This cut does not go all the way to the tip of the tail. Round over all edges formed by your gouge evenly with your jackknife. At the base of the neck there is a little hollow area. Carve down the back of the neck (Fig. 11). Removing the bulk of the wood formed by your half-round at the intersecting 'Y'. This rounding will accent the bulk of the bird's wings.



#### STEP 7. MAKING THE EYE POCKETS

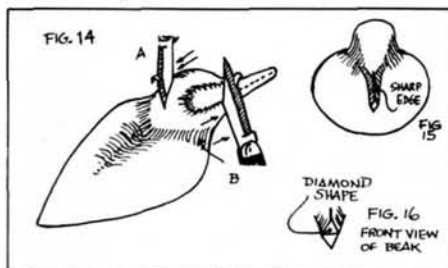
Carving with your jackknife, make a depression on both sides of the head (Fig. 12 and 13). This depression should be slightly concave (front view Fig. 13). You may have to use more of the knife point to make this cut. If you use too much of the wider part of the blade you will be unable to turn the knife to achieve this depression. Round over the top of the head and cheeks into this depression eliminating any sharp edges.



#### STEP 8. SHAPING THE NECK AND BEAK

Carve down the back of the neck (Fig. 14A) from the top of the head and

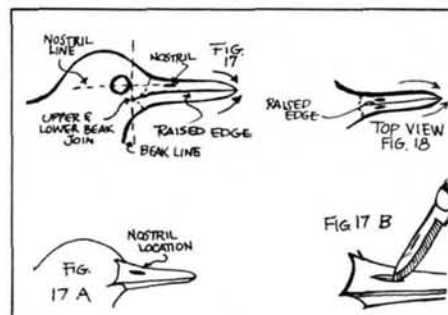
shape into the shoulder area, slightly concave around the base of the neck. This shaping will slightly narrow the neck from the body. Carve from the forward end of the eye depression down the beak at an angle (Fig. 14B) so when both sides are done the top of the beak will come to a sharp edge (Fig. 15). Do the same to the underside of the beak. Fig. 16 will show the end view of the beak. This diamond shape continues to the head.



#### STEP 9. FINISHING THE BEAK AND EYES

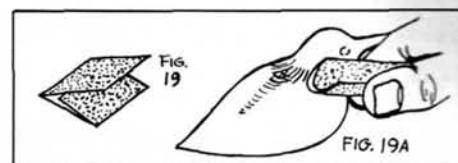
Round over the end of the beak (Fig. 17) and bring the tip of the beak to a point. From the top view bring the beak to a point (Fig. 18). Mark in the location of the nostrils by using Fig. 17 and 18 as a guide. Making sure your pencil marks are balanced, use the point of your jackknife to carve opposite elliptical cuts and remove wood from the nostril holes. Start by removing a very small sliver and gradually widen this hole to its proper size (Fig. 17A). Sand the beak, using your sandpaper to help shape the raised edges so they are straight.

We will only make an impression for eyes for the decoy. (This step is optional). To locate where to make eyes, use Fig. 17 and draw a line up the head from the corner of the upper and lower beak joint. The eyes are located in the middle of the nostril behind the beak lines. To make the eye depressions use a piece of 3/16-inch hollow tubing and push hard in eye location and it will depress a round groove, forming the circumference of the eye.



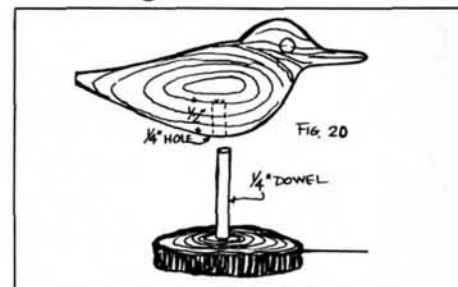
#### STEP 10. SANDING

To complete the decoy, the entire piece must be sanded. Fold your sandpaper in thirds (Fig. 19) to fit the different shapes and contours of the body (Fig. 19A). This method will enable you to remove ridges and depressions smoothly. Each carving you do may require sanding and proper sanding will help you as a finish-shaping tool. This decoy should be smooth with no carving marks left on it.



#### STEP 11. MOUNTING

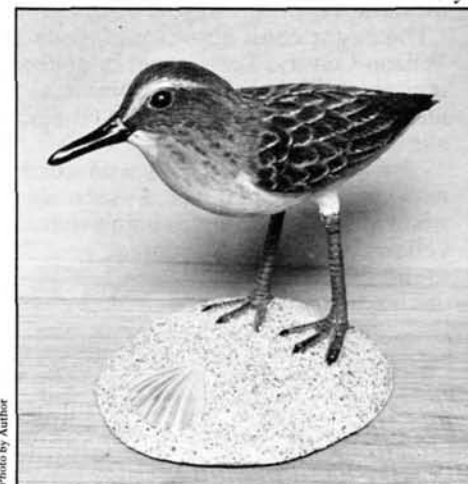
There are many ways to mount a decoy. In this case we are using a cross section of natural wood 3 inches in diameter, about 3/4 inches thick. Drill a 1/4-inch hole in the center of the bottom of the body about 1/2-inch deep. The angle drilled will determine the attitude of the decoy. Be sure when drilling that the hole isn't crooked side to side. Drill a 1/4-inch hole in the center of your base. Cut 3 inches of 1/4-inch dowel and glue bird to base.



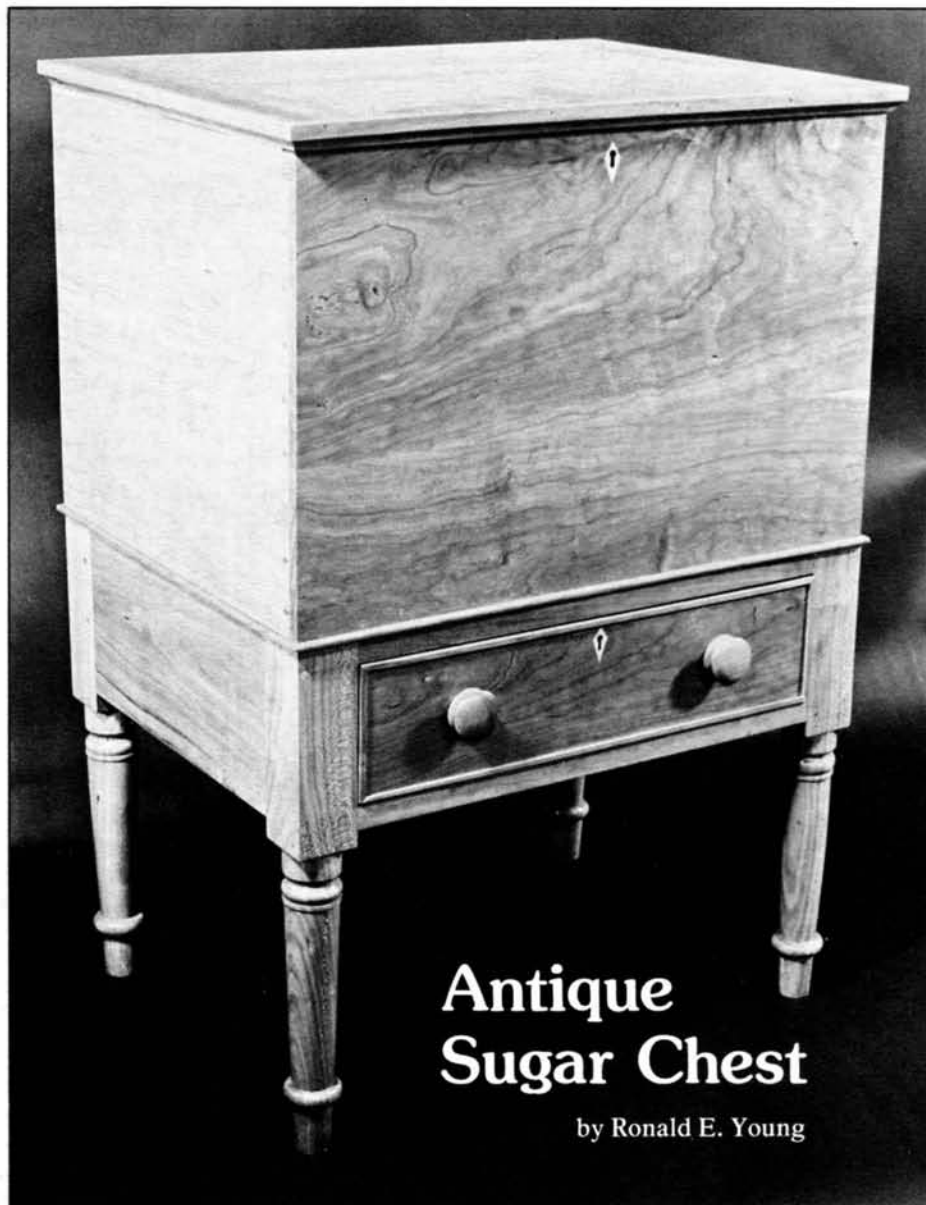
#### STEP 12. STAINING AND FINISH

Now that your sandpiper is mounted, it's time to decide on its colors. Traditionally decoys were given a coat of stain and that's all.

You can stain the entire piece one color, or stain the bird and dowel one color and the base another, or leave the base or bird natural. After staining, wipe with a cloth to remove excess stain. Allow to dry overnight. There should be a few coats of finish sealer applied over the stain to make the carving easier to clean and dust. Try a satin or gloss polyurethane and apply at least 3 coats to the entire piece, sanding lightly with fine sandpaper between coats. Because of the shape of this piece you may have runs or drips in your finish. Be a little extra careful when applying your polyurethane by not brushing on too heavily your coats.



The decoy can be further carved to create this fully detailed least sandpiper. The book "Woodcarving Illustrated" provides details.



## Antique Sugar Chest

by Ronald E. Young

Photos by Author

In our part of the southern Appalachian mountains one of the most prized antiques to own is a sugar chest. Sugar was a precious commodity in the mountains well into the late 19th century, and these chests provided a method to store the sugar under lock and key.

The sugar chest shown was made in Wilson County, Tennessee, in approximately 1870 by a local cabinetmaker and is a good example of a well-made sugar chest.

The favorite wood was wild cherry with yellow poplar as a secondary wood although examples using walnut, yellow pine, and all poplar can be found.

The top (N) is made with battens

(M) and edge molding (O & P) as shown. The battens serve to stiffen the top. Note the top has three mortises on each end. Only the middle one is glued, allowing the rest of the top to expand and contract with changes in humidity. Other details are the small maple diamond inlays (W & X) at the locks and the cockbeading around the drawer edges (V) and around the chest and frame joint (W). The inlays are made from 3/16 in. thick stock. A sharp chisel is used to cut a 3/16 in. deep mortise to receive the inlays. The keyhole is cut with a keyhole saw and small round file. Traditional drawer construction is used with a solid beveled panel bottom. The drawer dovetails repeat the fine pointed stopped

dovetails of the upper chest. Simple turned knobs complete the drawer.

Making the dovetails in the traditional manner is very time consuming and difficult due to the number of pins along the four sides of a box this high. The answer is to develop a jig that will speed up the job, add accuracy, and still maintain the fine dimensions of the original dovetails. Such a jig can be developed using a router and a standard 1/2 in. dovetail bit. Usually the router is used in a jig to cut both the pins and tails. But with this jig, the router cuts only the pins, and the tails must be cut by hand. In this type of stopped dovetail joint, the pins are 75 per cent of the work.

The jig consists of a template made of 3/16 in. thick laminated phenolic. Phenolic is an excellent material for a woodworking jig because it is tough, smooth, and machines well with carbide tipped woodworking equipment. I obtain phenolic sheet material from a local plastic supply house which stocks it in various thicknesses and sheet sizes for use as electrical insulating material.

Plexiglas® can also be used, just keep in mind that it will tend to heat and stick to the router bit, which can cause uneven cutting. Periodically, you'll need to stop and clean the bit with a sharp knife or single-edge razor blade.

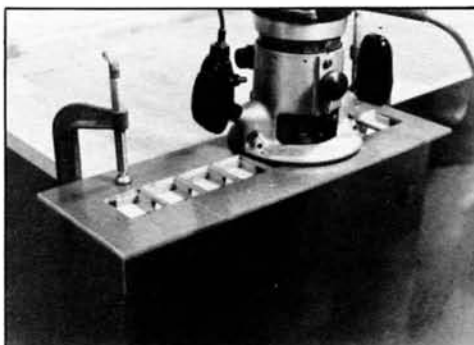
After securing the material, cut it to size. The template can be any length. I chose 18 in. because this is sufficient to make all dovetails for the chest in one setup. Larger templates could be made for larger cases. A 6 in. width gives enough room to clamp the template to the workpiece and also provides overall rigidity.

This template is made to use a standard Black and Decker 1/2 in. carbide dovetail router bit; other bits could be used, but check their dimensions. The idea is to guide the router with the template and rout out the waste between the pins and form the pins at the same time. Our chest has pins 1/2 in. high on 1 1/4 in. centers so the fingers of the template should be spaced on 1 1/4 in. centers and made of a width such that the pins come almost to a point at a 1/2 in. depth. Using the router bit with a 7/16 in. outside diameter bushing guide in the router, the finger width comes out to be 1/8 in.

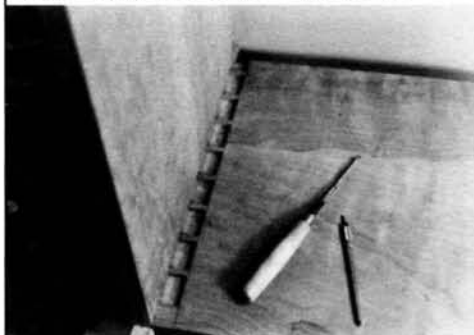
In order to make the fingers more rigid they are made to tie into the template at both ends. Therefore, the template becomes a series of rectangular

### Bill of Materials-All Dimensions Actual

| Part | Description          | Size                             | No. Req'd | Part | Description          | Size                                | No. Req'd | Part | Description     | Size                 | No. Req'd |
|------|----------------------|----------------------------------|-----------|------|----------------------|-------------------------------------|-----------|------|-----------------|----------------------|-----------|
| A    | Leg                  | See Detail                       | 4         | J    | Bottom               | 3/4 x 16 3/4 x 22 3/4               | 1         | S    | Drawer Back     | 1/2 x 5 1/4 x 20     | 1         |
| B    | Side Apron           | 3/4 x 6 3/4 x 16 (inc. tenons)   | 2         | K    | Cleat                | See Detail                          | 14        | T    | Drawer Bottom   | 1/2 x 15 x 19 1/2    | 1         |
| C    | Back Apron           | 3/4 x 6 3/4 x 22 (inc. tenons)   | 2         | L    | Chest Cockbead       | See Detail                          | As Req'd  | U    | Drawer Knob     | See Detail           | 2         |
| D    | Lower Drawer Support | 3/4 x 2 x 21 1/2 (inc. tenons)   | 1         | M    | Batten               | 3/4 x 2 1/4 x 18 3/4                | 2         | V    | Drawer Cockbead | See Detail           | As Req'd  |
| E    | Upper Drawer Support | 3/4 x 2 x 22 1/2 (inc. dovetail) | 1         | N    | Top                  | 3/4 x 18 1/4 x 21 3/4 (inc. tenons) | 1         | W    | Chest Inlay     | See Detail           | 1         |
| F    | Drawer Guide         | 1-1/16 x 1 3/4 x 15 1/4          | 2         | O    | Front & Side Molding | See Detail                          | As Req'd  | X    | Drawer Inlay    | Not Shown            | 1         |
| G    | Side                 | 7/8 x 17 1/2 x 17 3/4            | 2         | P    | Back Molding         | See Detail                          | 1         | Y    | Hinge           | Constantine No. 73A5 | 2         |
| H    | Front                | 7/8 x 17 1/2 x 24                | 1         | Q    | Drawer Front         | 1 x 5 1/4 x 20                      | 1         | Z    | Chest Lock      |                      | 1         |
| I    | Back                 | 7/8 x 17 1/2 x 23 1/4            | 1         | R    | Drawer Side          | 1/2 x 5 1/4 x 15 1/2                | 2         | ZZ   | Drawer Lock     |                      | 1         |



To save time and insure accuracy, the dovetail pins are cut with a template.



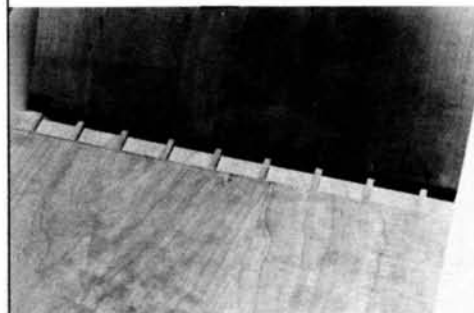
With the pins cut, the mating piece is butted against pin ends. A sharp razor knife is then used to transfer the profile of each pin to the mating piece.



A jig saw is used to cut just inside the scribed line. A small dovetail saw can also be used here.



Waste material is removed with a mallet and small sharp chisel.



Finished joint, ready for glue-up.

openings routed out in the center of the phenolic sheet.

To rout the series of openings I used the router with a  $\frac{1}{4}$  in. carbide straight bit and a box frame that allowed the router to move enough to cut a  $1\frac{1}{8}$  in. by 2 in. opening (see jig below). This will leave a finger between the openings  $\frac{1}{8}$  in. in width. Two scraps of phenolic sheet were used under the frame and screwed into the base such that the template was a tight friction fit between them. A register mark was placed on one of the scrap pieces marking the exact center of the opening made by the frame. The frame was also screwed to the base. All that remains to do now is to accurately scribe the centerline of the openings on the template, slip the template into the frame, align the register mark and the centerline mark, clamp the template to the base to make sure it does not move, insert the router, and make the rectangular opening.

With the first opening cut, simply remove the clamp, index to the next centerline, reclamp, and rout. Continue until the template openings are complete. It will be necessary to check your router base carefully and make the box frame to fit in order to cut properly sized openings. It's not a bad idea to make a trial run using a piece of plywood or hardboard before you cut your phenolic just to make sure your measurements are correct.

To cut the dovetail pins, square and center the template on the chest side and clamp it in place. Keep in mind that the template guide causes the bit

to cut inside the template. The finish cut depth should be equal to the thickness of the attaching side. With the template in place it is a simple matter to cut the pins one at a time. A word of caution, be sure the router has stopped completely before moving from one pin opening to another, for you may cut and damage the template. After the pins are cut, it will be necessary to take a chisel and square up the rounded corners at the back of the pins.

The tails are laid out by aligning and clamping the side with the pins to its mating side. Transfer the pins by scribing with a small thin-bladed knife, such as an Exacto hobby knife. Take great care in this step and do your most accurate work.

With the tails laid out, they can now be cut with a jig saw or small dovetail saw cutting just inside the scribed line. Because the pins are so small you must use a  $\frac{1}{8}$  in. chisel to remove the waste between the tails; go slowly and work from both sides to the center.

To help with fitting the finished joint, bevel the inside of the tails slightly to allow the pins to start into place. Carefully fit the joint, trimming as necessary, for a tight fit.

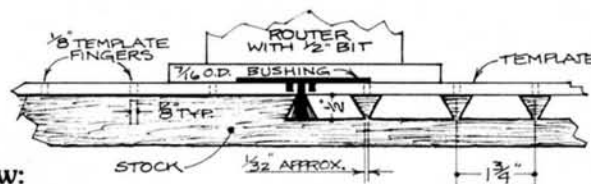
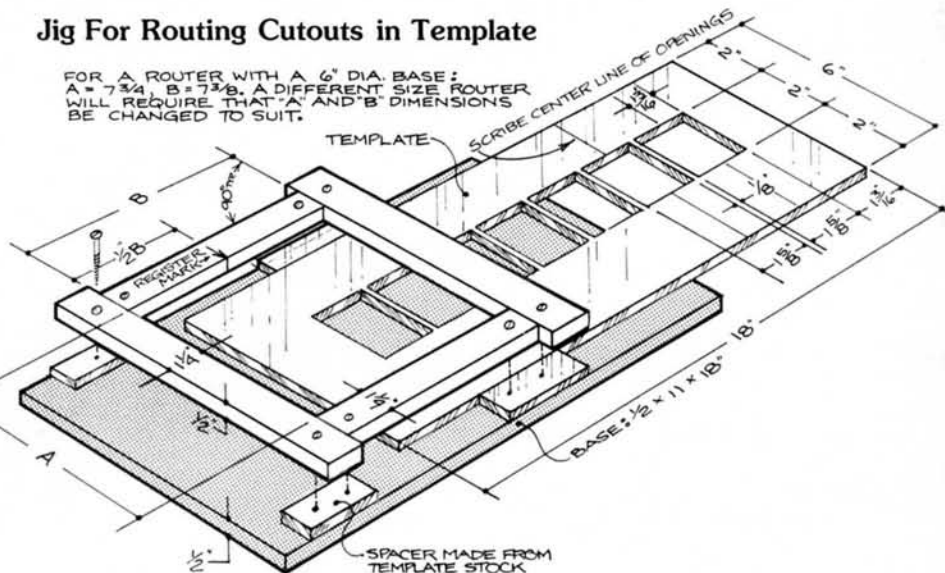
This same type of template with the fingers on closer centers can be used in drawer construction, and the width of the fingers can be varied to make wider pins. Applications are limited only by your imagination.

If cherry or walnut is used, a good final finish is simply three coats of a good penetrating oil. If pine is used, stain to suit, then add the penetrating oil.

(continued on next page)

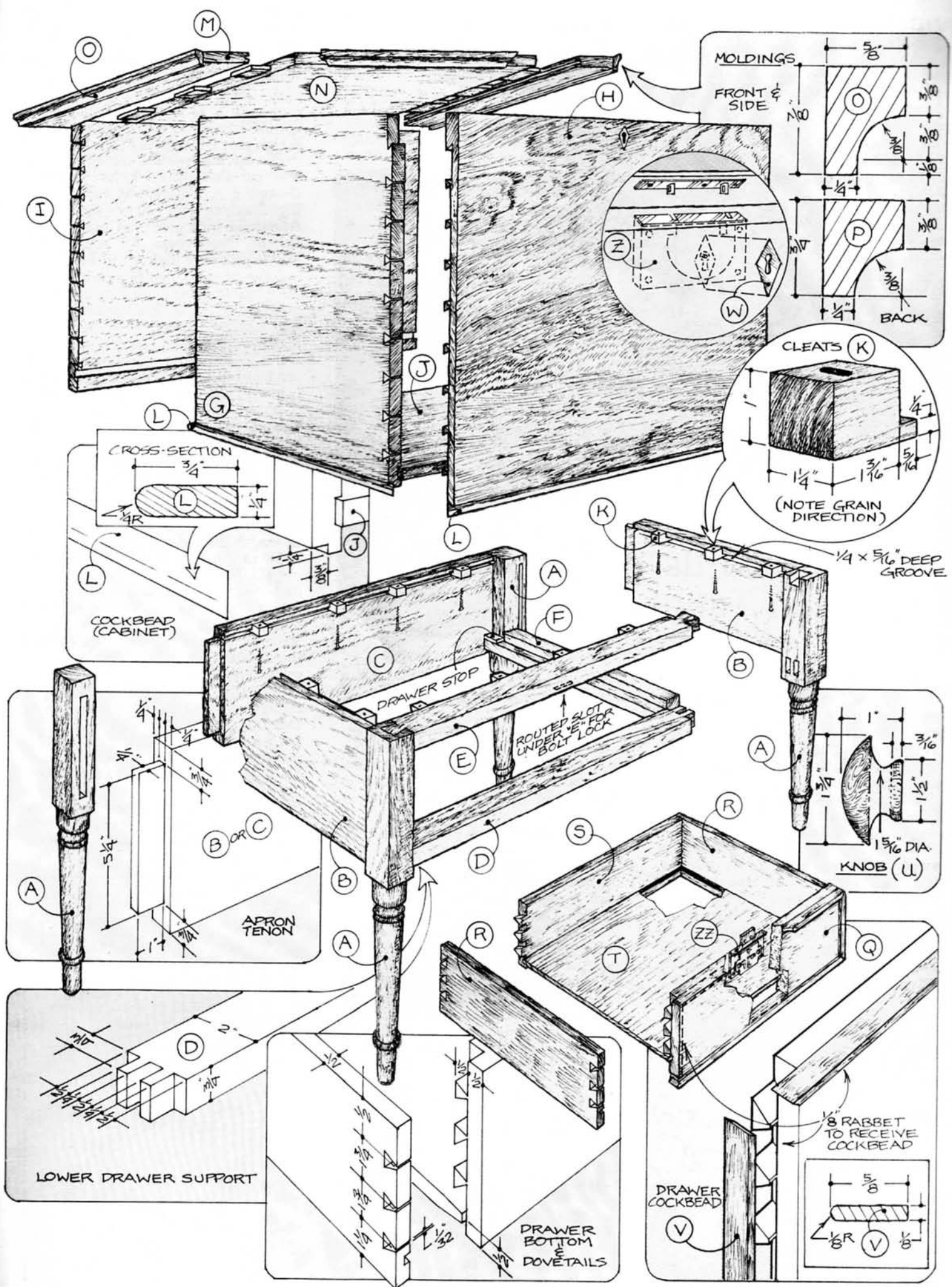
### Jig For Routing Cutouts in Template

FOR A ROUTER WITH A 6" DIA. BASE:  
A = 7 $\frac{3}{4}$ " B = 7 $\frac{3}{8}$ ". A DIFFERENT SIZE ROUTER  
WILL REQUIRE THAT "A" AND "B" DIMENSIONS  
BE CHANGED TO SUIT.



Cross-Sectional View:  
Cutting Pins With Template







## Cabinet for Records and Tapes

by Steve Perkins

Music buffs may want to take note of this project. It has two shelves for record albums and three drawers for tape cassettes. With each drawer divided into 16 rows, and each row holding four cassettes, there's room for over 60 cassettes in each drawer.

Oak plywood was used for parts A, B, C, D, E, and H, while oak solid stock was used for all other parts.

Begin by cutting enough edging stock (part F) to cover all four edges of the sides (parts A) and also the front edges of the top (part B), the upper shelf (part C), the lower shelf (part D), and the bottom (part E). It's best to make the edging wider than necessary, so start with five-quarter stock (it actually measures 1-1/16 in. thick), which can later be trimmed to 3/4 in. A piece of stock about 4 in. wide and 43 in. long will provide more than enough edging material for the project.

Cut the two sides (A) to overall length and width, taking care to make sure the edges are square. Glue edging strips to the top and bottom edge of each side and use bar or pipe clamps to secure until dry. The edging may have a tendency to slide when clamped, so before gluing it's a good idea to drive two or three short brads in part A, then clip the heads off so that about 1/16 in. is exposed. *Make sure however, that the brads along the bottom edge are located where they won't be hit when the rabbet is cut la-*

*ter on.* When dry, remove clamps and trim the ends of the edging flush with the sides of part A. A block plane can then be used to trim the 1-1/16 in. wide edging to make it flush with the 3/4 in. thick side. Following this, the edging along the sides of part A can be applied and trimmed in the same manner.

The 3/8 in. by 3/8 in. rabbet along the back edge of part A can best be cut on the table or radial-arm saw using a dado head cutter, but repeated passes with a regular sawblade will also do the job. The same method can be used to cut the 3/8 x 3/4 rabbet along the bottom edge and the 3/8 x 3/4 dado for the top (part B) and the lower shelf (part D). Note that the 3/8 x 3/4 dado for the lower shelf (part C) does not run the entire width of the side. This joint, called a stopped dado, is best cut using a router guided by a straight length of scrap stock clamped to the side. The corners will be rounded at the point where the router stops, so use a sharp chisel to cut them square.

The top (part B), upper shelf (part C), lower shelf (part D), and bottom (part E) can now be cut to overall length and width, again taking care to make sure the cuts are square. Note that each of these parts has an edging strip along the front edge only. Use the methods previously described to apply and trim the edging on all four parts. Following this, use the dado head cut-

ter to make a 3/8 in. by 3/8 in. rabbet along the back edge of part E (see detail B).

Cut the back rail (part G) to length and width, then use the dado head to make three cuts; a 3/8 x 3/8 rabbet on each end, a 3/8 x 3/8 rabbet along the bottom edge, and a 3/8 x 3/4 groove to accept part B (see detail D).

The carcass (parts A through G) can now be assembled. Before starting though, give all parts a thorough sanding, finishing with 220 grit sandpaper. Assemble with glue and pipe or bar clamps, then check for squareness. You'll probably find it will be helpful to have an extra pair of hands to help with this step. And use clamp pads to protect the stock. It's important that the case be square, so if necessary, make adjustments before the glue starts to set up. A few finishing nails can be used to help secure parts E and G to the case. Allow to dry overnight.

Once dry, the clamps can be removed. Measure the opening for the back (part H), then cut to size. Give both sides a thorough sanding before joining it to the case with glue and finishing nails.

The door (parts I, J, K, and Q) is made next. Cut the door stile (part I) to length and width, then use a dado head to cut the 1/2 x 3/4 grooves for parts J. Note that at the top of the door this groove is cut at a point 2 1/4 in. from the top end, while at the bottom it forms a rabbet. Next, cut the 1/4 in. wide by 3/8 in. deep groove to accept the smoked Plexiglas® front (Q). This cut is best made using the router in conjunction with a 1/4 in. diameter straight bit and an edge guide. Note that this groove is located 1/4 in. from the front edge of part I. You can also use the router (equipped with a 3/8 in. dia. straight bit and edge guide) to cut the 1/2 x 3/8 notch for part K. Use a chisel to square the rounded corners. To complete work on part I, lay out a 1 1/4 in. radius on the top end, then cut out with a band or saber saw.

Bill of Materials  
(All Dimensions Actual)

| Part | Description   | Size                  | No. Req'd |
|------|---------------|-----------------------|-----------|
| A    | Side          | 3/4 x 16 1/2 x 41 3/4 | 2         |
| B    | Top           | 3/4 x 16 1/2 x 21 1/4 | 1         |
| C    | Upper Shelf   | 3/4 x 12 3/4 x 21 1/4 | 1         |
| D    | Lower Shelf   | 3/4 x 16 1/2 x 21 1/4 | 1         |
| E    | Bottom        | 3/4 x 16 1/2 x 21 1/4 | 1         |
| F    | Edging        | 1/2 x 3/4             | As Req'd  |
| G    | Back Rail     | 3/4 x 5 x 21 1/4      | 1         |
| H    | Back          | 3/4 x 21 1/4 x 37     | 1         |
| I    | Door Stile    | 3/4 x 1 1/4 x 42      | 2         |
| J    | Door Ends     | 3/4 x 1 1/4 x 21 1/2  | 2         |
| K    | Door Rail     | 3/4 x 2 x 21 1/2      | 2         |
| L    | Drawer Front  | 3/4 x 2 3/4 x 20 3/4  | 3         |
| M    | Drawer Sides  | 1/2 x 2 3/4 x 15 3/4  | 6         |
| N    | Drawer Back   | 1/2 x 2 3/4 x 18 3/4  | 3         |
| O    | Drawer Bottom | 1/4 x 15 1/4 x 18 3/4 | 3         |
| P    | Drawer Slides | No. 237-005           | 3 pr.     |
| Q    | Plexiglas®    | 1/4                   | 1         |

Parts J and K can now be cut to size. Note that part J has a  $\frac{1}{4}$  in. wide by  $\frac{3}{8}$  in. deep groove to accept the smoked glass (Q). To cut this groove, use the same router set-up as was used to cut the groove in part I.

Final sand all door parts, then cut the  $\frac{1}{4}$  in. Plexiglas® to size. Dryfit (without glue) parts I, J, and K, then bore holes for countersunk wood screws through part K into part J as shown in detail A. At the bottom joint bore the holes through part J into part K.

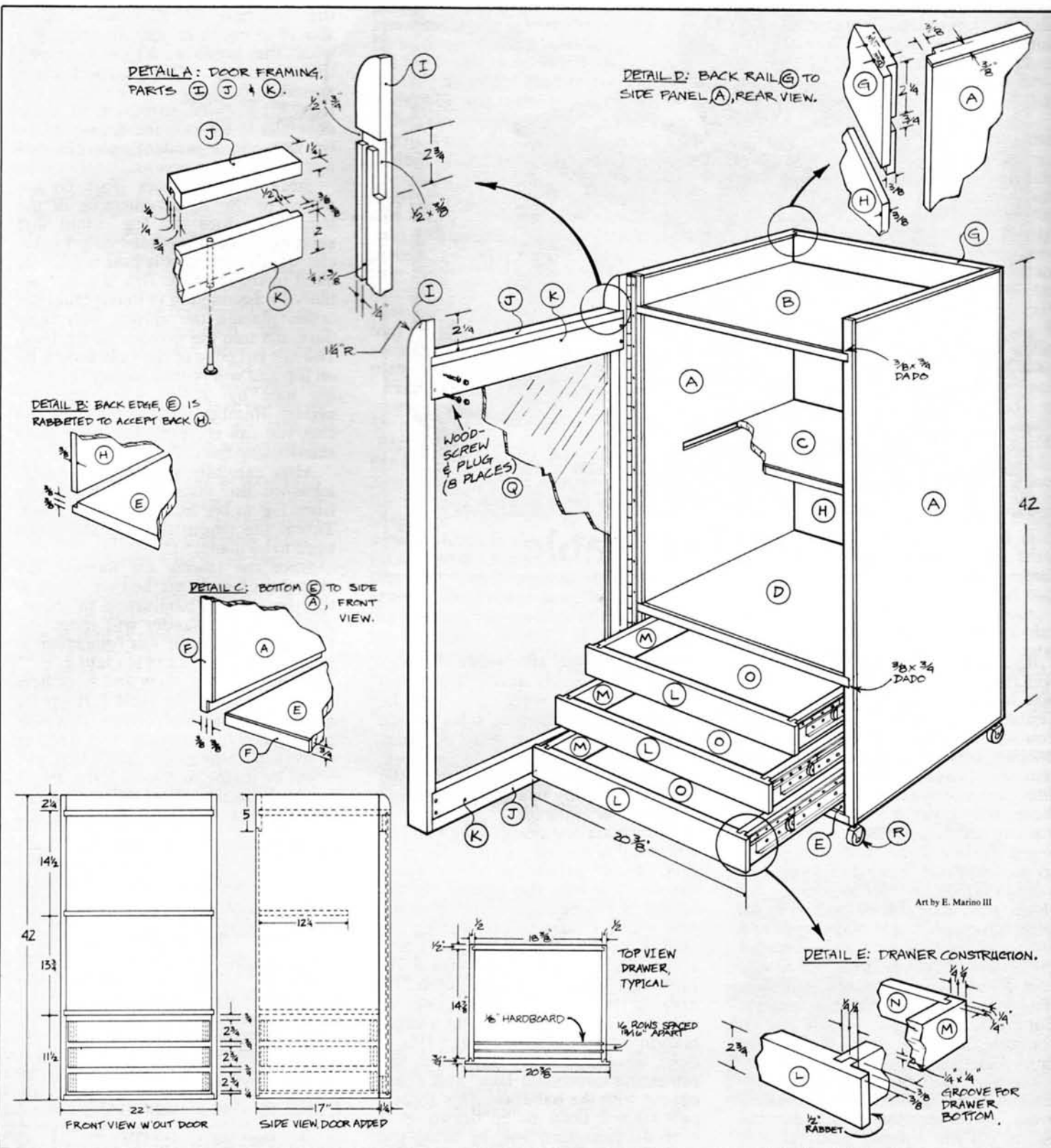
Assemble the door parts as shown.

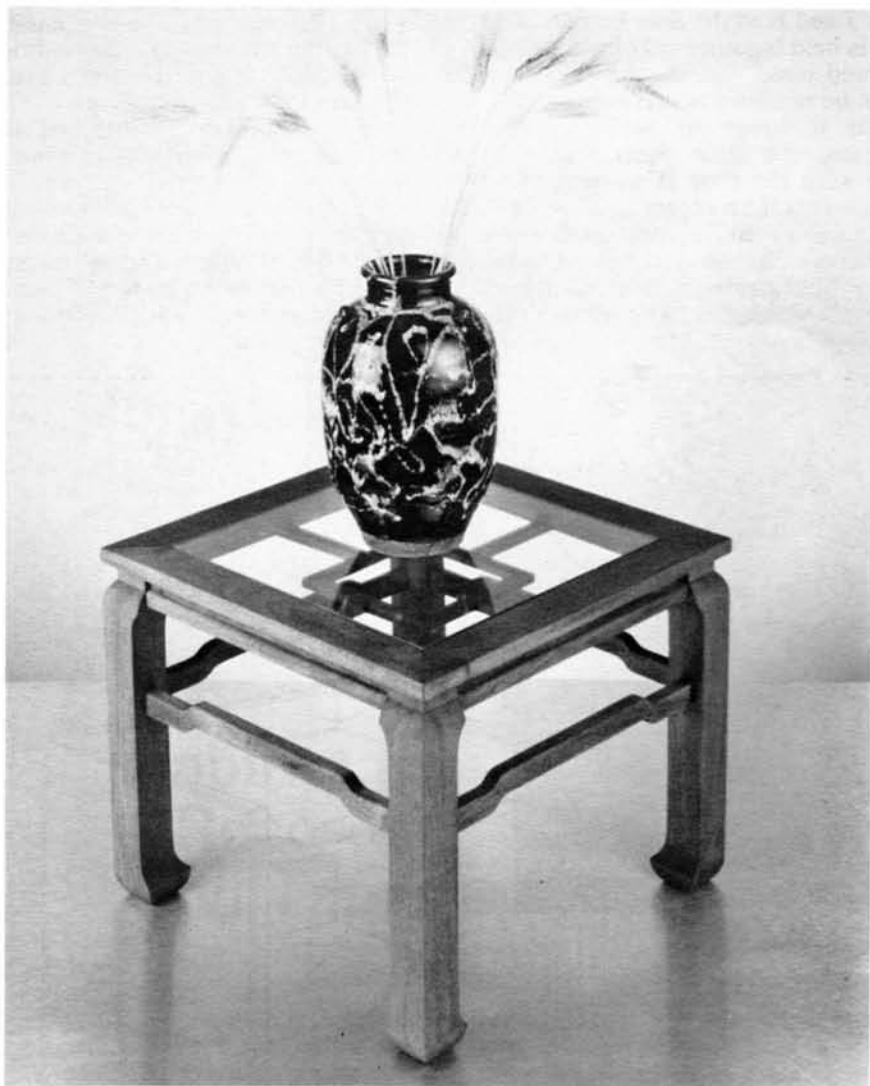
Use glue and clamp securely. However, do not glue the joint between parts J and K at the door bottom. This joint is held together only by the counterbored wood screws, therefore part K can be removed to replace the glass should it break or scratch. After clamping the door parts, check to make sure the door is square. Make adjustments if necessary.

Cut and assemble the drawer parts as shown. The 16 in. full-extension drawer slides can be purchased from the mail-order company Woodworker's Supply of New Mexico, 5604 Ala-

meda N.E., Albuquerque, NM 87113. Order part number 237-005. Price is \$7.85 per pair. Postage and handling charge (for three pair) is an additional \$3.50. Mounting instructions are included with the drawer slides.

Give the entire project one more sanding using 220 grit paper. Final finish is a matter of personal taste. The one shown was finished with two coats of Watco Danish Oil. The addition of a brass piano hinge and a magnetic catch completes the project. If desired, four casters can be added to make the unit more portable. Wwj





## Chinese Tea Table

by Brian Diehm

If you have a chance to visit the Portland (Oregon) Art Museum, be sure to take in the permanent display of 15th Century Mandarin wood furniture. You will appreciate the skill of these woodworkers of centuries past, and also the beautiful simplicity of the lines. No overly-ornate reproductions these, they present a clean freshness that can only be approached in modern times by Scandinavian design. They are not, however, devoid of decorative touches sensitively applied.

Mahogany solid stock was used for all parts, although maple or cherry would also be good choices. Construction of the table is best performed in a specific order. Start with the four legs (Part A), made from the 3 x 3 stock. Cut the four pieces to length first. If you can, joint the ends of the legs immediately with a disk sander, because they will be more difficult to smooth later. Next, use a router or drill press, in conjunction with a dovetail bit, to cut the dovetail grooves. It is important to do this before the hand-

sawing, because afterwards the legs will not have easily available flat surfaces to rest the work upon. Cut the grooves on two adjoining sides of each leg, centered  $1\frac{3}{8}$  in. from the common corner. Make them  $\frac{1}{2}$  in. deep, and extend the cut from the end of the leg down exactly one inch, measured at the center of the bit.

Next, mark one side of a leg that has a dovetail in it. Note carefully the relation of the pattern to the dovetail groove. The long flat side at the top should be placed towards the adjoining side with the dovetail cut, leaving the short flat side that must be cut out on a blank side. A circle gauge with a  $2\frac{1}{2}$  inch diameter cutout will be helpful for drawing the curves. Use a bandsaw to cut the drawn pattern, leaving a small margin for sanding later. Once this is done, draw a reversed pattern on the remaining dovetailed face, and again cut out with the bandsaw. This second pattern will need to be drawn on a curved cut surface but, by using the curvature endpoints, this can be done

surprisingly easily.

At this point, the legs can be given a thorough sanding. A drum sander, if you have one, will be helpful when sanding the inside curves.

Next, lay out and mark the location of mortises, for Part G, the stretcher. A sharp  $\frac{1}{4}$  in. chisel will cut each mortise in short order.

When all the legs are complete, the next step is to make the aprons (Part B). Cut four 16 in. lengths of 1 x 2 stock, and then rip them to a  $1\frac{1}{4}$  in. width. The next operation is to form the dovetails on the ends. These should be cut  $\frac{1}{2}$  in. into the ends, at a width that produces a tight joint with the table legs. (Don't expect these aprons to fit flush with the top of the legs). The  $\frac{1}{2}$  in. extension of these dovetails is critical; the fitting to the top frame is dependent upon the correct length of the aprons.

Since the stretchers (Part G) are mated to the cutout surfaces of the legs, and since the leg cutout and sanding process provides only imprecise depth control, it is best to individually fit these parts. This is done partially by assembling (without glue) the table, placing the aprons with their dovetails into the grooves in the legs. The raw cut edge of the rails should be on top and will remain higher than the leg tops by  $\frac{1}{4}$  in. when correctly placed. Number the legs and sides so that you can recreate this same parts relationship later.

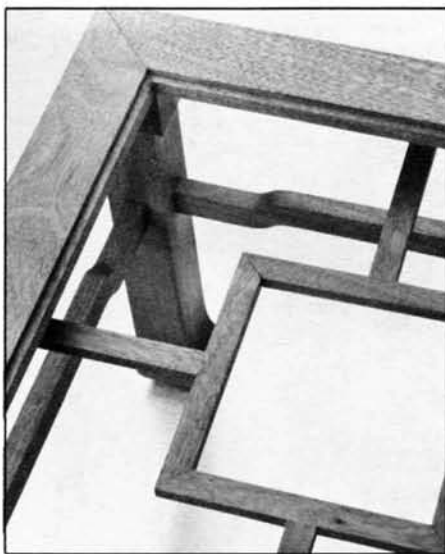
After carefully squaring the table, measure the distance on each side from leg to leg at the mortise point. This is the length that the stretchers need to be made.

Once the tenons are formed, the stretchers may be marked according to the pattern and bandsawed to shape. Again, a drum sander will speed the task of smoothing if you remember to turn with the grain and not into it.

Once the legs, aprons and stretchers have been made, the table is ready for assembly of the first portion. This two-step assembly makes the critical fitting of the top frame easier, since that way it will be mated to a solid form. Begin by final sanding all of the pieces finished to now, then take a practice run

Bill of Materials  
(All Dimensions Actual)

| Part | Description | Size                                                    | No. Req'd |
|------|-------------|---------------------------------------------------------|-----------|
| A    | Leg         | $2\frac{1}{2} \times 2\frac{1}{2} \times 15\frac{3}{4}$ | 4         |
| B    | Apron       | $\frac{3}{4} \times 1\frac{1}{4} \times 16$             | 4         |
| C    | Rail Trim   | $\frac{1}{2} \times \frac{3}{4} \times 15$              | 4         |
| D    | Top Frame   | $\frac{3}{4} \times 2\frac{1}{2} \times 20$             | 4         |
| E    | Web Support | $\frac{1}{2} \times \frac{3}{4} \times 5\frac{1}{4}$    | 4         |
| F    | Web Frame   | $\frac{1}{2} \times \frac{3}{4} \times 7\frac{1}{2}$    | 4         |
| G    | Stretcher   | $\frac{3}{4} \times 1\frac{1}{2} \times 17\frac{1}{2}$  | 4         |
| H    | Glass Top   | $\frac{1}{4} \times 15\frac{3}{4} \times 15\frac{3}{4}$ | 1         |



*Webwork is glued to underside of aprons.*

(without glue) at the assembly of the base.

The sequence is as follows: Assemble the stretchers (G) into each of the legs (A), then add the aprons (B). Keep in mind that the top edge of the aprons will be  $\frac{1}{4}$  in. above the top of the legs.

Once in this configuration, clamping the assembly is done with a single band clamp placed around the outsides of the legs at a height between the aprons and stretchers. Once the clamp is tightened the assembly will take on a rigidity that will allow squaring the legs.

When the practice run is perfected, the base is ready for gluing. Glue each joint generously as it is being assembled, and finish the assembly quickly but without haste. Clamp the assembly and then square everything well.

The final structural assembly is the top frame (Part D), which holds the glass as well as providing structural rigidity. This top frame is made from the 1 x 3 stock. Cut four lengths just over 20 in. and examine each for the face with the best appearance. Mark the opposite faces.

In each marked face, cut a groove  $\frac{3}{4}$  in. wide and  $\frac{1}{4}$  in. deep, set  $\frac{3}{4}$  in. from one edge (and therefore 1 in. from the other edge). A dado blade makes the job a matter of a single pass, but repeated saw cuts may be performed to get the same effect provided that the bottom of the groove is checked for smoothness - take care in making sure each cut is to full depth.

After cutting the grooves, turn the pieces over and mark the top edge farthest from the groove (over the 1 in. surface left after grooving). This edge is then cut to form a  $\frac{1}{4}$  in. by  $\frac{1}{4}$  in. rabbet. If you have a jointer, using it to cut this rabbet will save much sanding time. If you must use a table saw to form the rabbet, carefully sand it smooth on both sides and make sure the corner is square.

The next step is to cut the miter ends of the prepared stock. These are cut

with the rabbet edge on the inside and therefore shorter than the other edge, which should be cut to just over 20 in. After cutting all four pieces, place them on the table loosely, like pieces of a picture frame, with the bottom groove mated to the aprons.

Since the pieces were cut a little long, the top frame may not all fit into place. This trial assembly provides the opportunity to measure exactly how much needs to be trimmed to make everything fit.

The top frame members can now be glued to the aprons. Assemble all four members, making sure the miter joints fit well, then use C-clamps to clamp the top frame members to the aprons. Be sure to apply glue to the mitered ends of the top frame parts.

The remainder of the table assembly is trim work; the structural part of the table is done. All the trim utilizes stock  $\frac{1}{2}$  in. by  $\frac{3}{4}$  in., which is made by ripping all the remaining 1 x 2 stock. Cut through the  $\frac{3}{4}$  in. thickness to gain two lengths of stock from each piece. Be careful ripping these pieces, they are small and require the use of a feather board and fence straddler pusher to maintain safety. A jointer may be used to finish the cut and make an accurate  $\frac{1}{2}$  in. width, or a hand planer and sanding will suffice.

From some of the stock just made, measure and cut four pieces just over 15 in. These will form the rail trim (Part C). Cut a  $\frac{1}{4}$  in. x  $\frac{1}{4}$  in. rabbet the length of one edge of each piece. Across the narrow face of the pieces, the other edge needs to be rounded. A shaper or router may be used, but a sanding block is more than sufficient. Final sand the four trim rails and check them for length against each of the aprons. The rabbet is built to receive the exposed bottom edge of the aprons (see Section Detail). If necessary, adjust the length of the trim rail and then put some glue in the rabbets and glue them in place, clamping them with wooden cabinetmaker's clamps.

The remaining stock is used to make the webwork pattern. Carefully cut four lengths to exactly  $5\frac{1}{4}$  in. Miter cut four more lengths so that the long side is exactly  $7\frac{1}{2}$  in. leaving the short side exactly 6 in. If a disk sander is available, cut all eight pieces a little long and joint the cuts to make the correct length.

Glue and assemble the entire webwork, clamping with miter clamps if available. Otherwise use any clamping arrangement that provides a finished webwork that is flat. If necessary, this may be done in stages rather than all at once. Let the glue dry completely before proceeding, because the webwork is not inherently strong and insufficient curing will only make the assembly more fragile.

To prepare the table for attachment of the webwork, lay it top down on a cloth-covered level surface. On the exposed bottom surface of the aprons,

mark the exact center of each length. Then, place parallel lines across the grain of the aprons  $\frac{3}{8}$  in. to either side of the center mark. These lines demarcate the placement of the webwork ends. The Section Detail shows the relationship of the apron, the trim rail, the top frame and the webwork. Note that parts E are joined to parts F with small countersunk and plugged wood screws.

Place a layer of glue within the marked area of the aprons and lay the webwork, best face down towards the top frame, on the glued areas. Adjust position (if necessary) until all four ends of the webwork fall within their marked areas. Scrape excess glue and clamp each end with a large cabinetmaker's clamp placed "under" the top and "over" the webwork end.

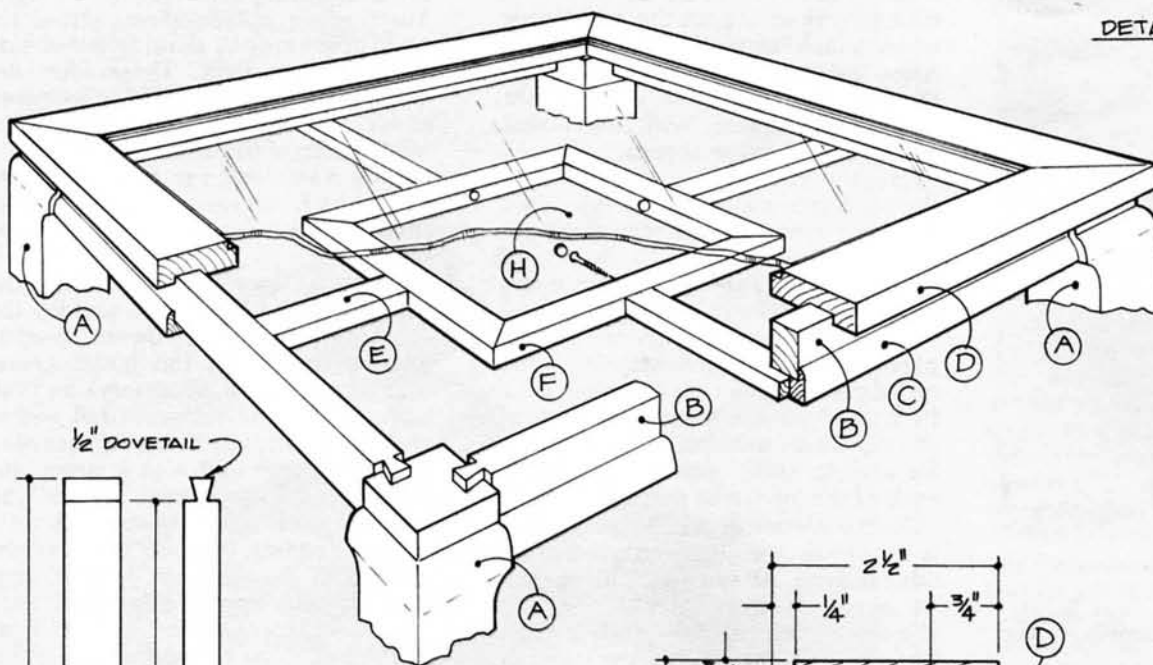
Use a sanding block to preserve the flatness of the surfaces. If necessary, sand the appropriate edge near each joint to make the miter joint exactly on the corner. The outside edges of the top frame may be rounded slightly ( $1/16$  in. radius) to remove sharp corners; if this is done, you might want to similarly treat the vertical edges of the legs and the bottom edge of the rail trim. When complete, the glass will protect the webwork, but while sanding and finishing, remember that it is not a structural part and is subject to damage should, for example, a heavy tool fall upon it. Before finishing, the areas around all joints should be touched up with finish grade sandpaper to remove glue traces on the surfaces.

At this point, construction of the table is complete, and the only pieces that still require finish sanding are the trim rail and the top frame. Finish sand these parts now, making sure that the top frame joints are perfectly smooth.

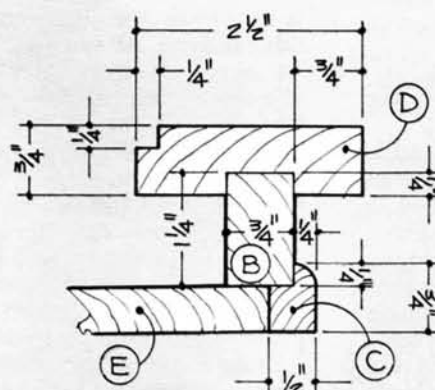
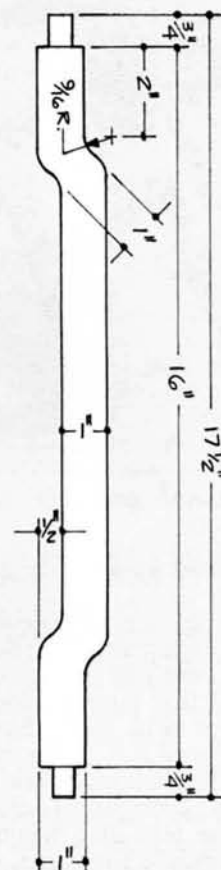
A clear penetrating oil finish looks best with a piece like this. Three coats of Watco Danish Oil were applied, each being allowed to soak in for about five minutes before wiping off the excess. (continued on next page)



*After final sanding, a clear penetrating oil is added to provide an attractive finish.*

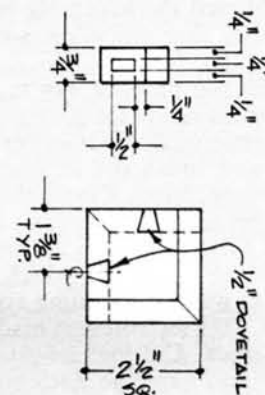
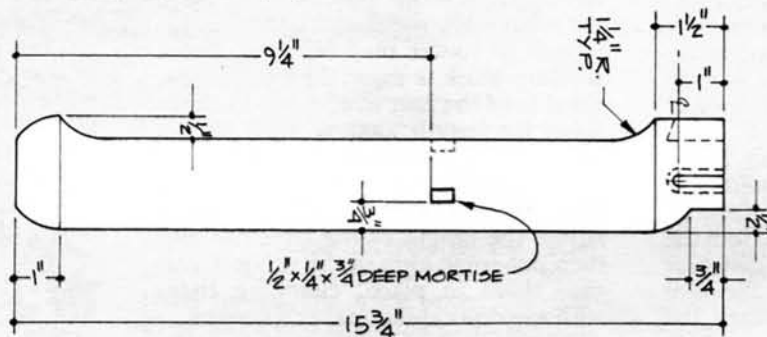


DETAIL: STRETCHER (G)

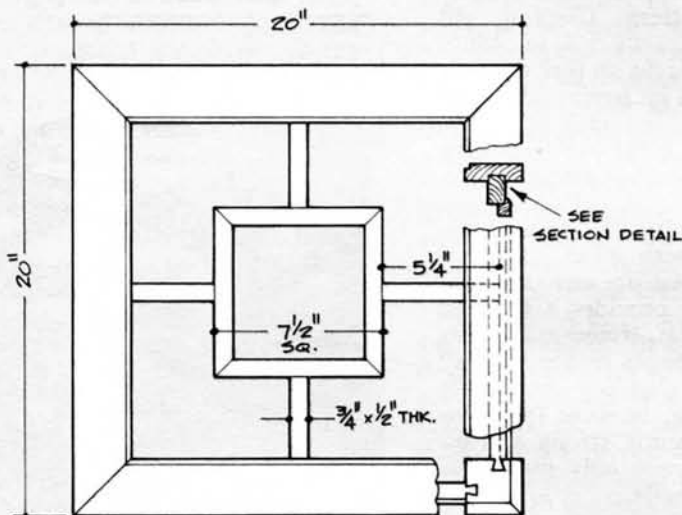


SECTION DETAIL

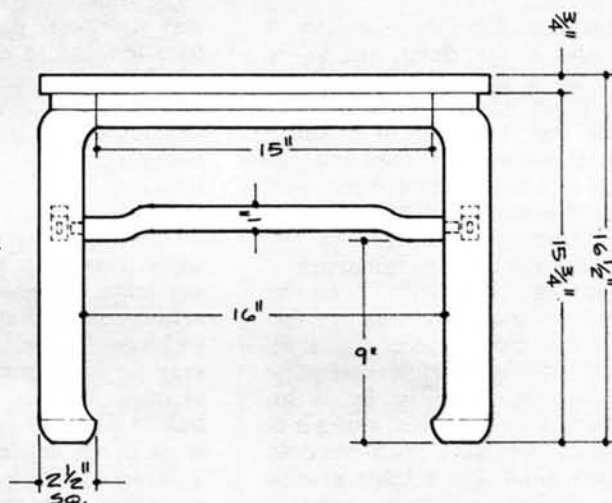
DETAIL: LEG (A)



DETAIL: APRON (B)



TOP VIEW



SIDE ELEVATION



## Old World Weather Forecaster by Sam Allen

The weather house type of weather forecaster is a very old traditional type that was popular in Europe, especially Germany. Changes in the weather cause a gut string to twist. The string is attached to small figures of a man and a woman. If the woman is outside of the house, the weather will be fair; when the man comes out, stormy weather is predicted. If you like to carve and are interested in the weather, this is a very enjoyable project.

Start by cutting the front (A) and the back (B) out of a  $\frac{3}{4}$  inch thick board. Mahogany or walnut will work well for this project. The outlines of both pieces are identical. Once the outline of the back is cut it is complete, but the front requires further work. Cut the two arched doors in the front with a coping saw, bandsaw or jig saw. Use a router with a cove bit that has a pilot to cut the cove around the doors. Next use a  $1\frac{1}{2}$  inch spade or Forstner bit to start

the hole for the sun carving (K). Stop drilling when the hole is  $\frac{1}{4}$  inch deep. Switch to a  $1\frac{1}{4}$  inch bit and finish drilling the hole through the front. This hole is necessary to attach part (J) to part (M) when the house is complete. Using the two drill diameters will form a lip around the hole that will hold the sun carving.

Now cut out the base (C). Use a power carving tool or a router to cut out the recess for the pivot arm (F) and the two semi-circular slots. Use the router and cove bit to make the decorative cove around the front and both ends. Don't cut a cove along the back.

The sides (D) and the top (E) are  $\frac{1}{4}$  inch thick. You can resaw a piece of  $\frac{3}{4}$  inch thick wood to make them. Since the angle at the peak of the roof is 90 degrees a standard 45 degree miter is used to join the two roof pieces (E). Cut a 45 degree angle at the top of both sides (D) where it will join with

part (E).

Attach the front and back to the base with flat head screws and glue. Countersink the screw heads into the base and be sure to drill pilot holes. The wood is likely to split if you don't, especially on the front where there is only a small section of wood next to the door to screw into. Next glue and clamp the sides (D) in place. The sides are flush with the back and they overhang slightly on the front.

When the glue has cured on the sides, trim the angle on the top of them to conform exactly to the angle of the front and back, then glue the roof pieces in place. The best way to clamp the roof pieces is with a web clamp, but you can also position small C-clamps or spring clamps in the door openings and in the hole for the sun carving.

(continued on next page)

Next drill a  $\frac{1}{4}$  inch hole through the base and center divider of the front at the position indicated on the plan. Stop the hole when you see the drill enter the hole for the sun carving. Drill another  $\frac{1}{4}$  inch hole through the peak of the roof to match up with the hole drilled through the base. It will be easier to start the hole if you first flatten the peak of the roof in the area where the hole should go by filing it with the flat edge of a triangular file. It's all right if there is a slight amount of misalignment between the two holes because the gut string (J) is flexible and can compensate for some error.

Cut out the chimney (L) and drill a  $\frac{1}{4}$  inch hole through its center. You can get the angle cut in the bottom of the chimney to fit the angle of the roof perfectly by folding a piece of fine sandpaper over the peak of the roof with the cutting side facing up. Hold the chimney in place on top of the sandpaper and slide it back and forth across the peak until the sandpaper is cutting evenly across both faces of the cutout in the chimney.

At this point, apply a walnut colored Danish oil finish to the house and set it aside while you work on the figures.

The two figures (H and I) are carved from a lightweight wood such as pine or balsa. The weather sensing gut string doesn't have too much turning power, so if the figures are too heavy they will make the forecaster less sensitive. Use a jackknife or small carving chisels to carve the figures. Start with a block  $1" \times 1" \times 8"$ . The extra length gives you a good handle to hold onto while you work. When the figures are complete, carve a  $\frac{1}{4}"$  diameter pedestal below their feet that will fit into the slot in the base. After carving the pedestal, use a fine tooth saw to cut the figures off from the handles. Apply a clear finish to the figures.

The pivot dowel (G) fits into a blind hole drilled in the center of the pivot arm (F). Check to see that the dowel fits loosely into the hole drilled for it in the base of the house; if it binds you may have to sand it down to a smaller diameter.

The heart of this weather forecaster is a section of gut violin string (J). Buy a "D" violin string at a music store. The cheaper the better as long as it's real gut. More expensive strings are made to resist weather related changes so they won't go out of tune. If not available locally, a "D" violin string can be ordered from Folkcraft Instruments, P. O. Box 807, Winsted, CT 06098. Price is \$4.95 each. One string will give you enough gut to build several forecasters. The string will be wrapped with a covering of steel wire and a layer of thread wrapped under that. You must remove both of these layers to expose the bare gut underneath. Cut a section of the string, slightly longer than needed, with wire cutters and unwrap the steel and thread. Moisten a clean piece of cotton

with rubbing alcohol and use it to wipe off the string. This will remove any oils that are on the gut that would prevent it from responding to weather changes. Drill a  $\frac{1}{16}"$  hole about  $\frac{1}{2}"$  deep in the top of the pivot dowel (G). Apply a small amount of glue to the end of the gut string and insert it into the hole.



When the glue has cured, you are ready to test the gut. Hold the free end of the gut string and let the pivot dowel and pivot arm dangle freely below it. Move the gut close to a flow of steam escaping from a teapot. The pivot arm should turn. The direction that it turned is the indication of stormy weather. Mark that end of the pivot arm for later reference. If the arm didn't move, try cleaning the gut again with alcohol. If it still won't react, you will have to get another piece of gut.

Position the pivot dowel in its hole in the base; the gut string should be visible in the hole that the sun carving fits into. Make certain that the ends of the figures will fit freely into the semi-circular slots in the base. Glue the male figure to the side of the pivot arm that you previously marked as the stormy side. Glue the female figure to the opposite end of the pivot arm. Before the glue sets, rotate the arm to make sure that the figures don't bind anywhere along the slots.

The setting knob (M) is made from a small section of  $\frac{3}{8}"$  dowel. Drill a blind hole in one end to accept a  $\frac{1}{4}"$  dowel and glue the setting knob dowel (N) into the hole. Round the edges of the knob with sandpaper and stain the knob to match the rest of the house. Drill a  $\frac{1}{16}"$  hole  $\frac{1}{2}"$  deep into the end of part (N). Insert the setting knob assembly into the chimney. You should be able to see the end of part (N) inside of the hole for the sun carving. The string's length should be adjusted so it will suspend the pivot arm just below the surface of the base

when it is fitted into part (N). Apply a small amount of glue to the end of the gut string and insert it into the hole drilled in part (N). You may need to use tweezers to do this.

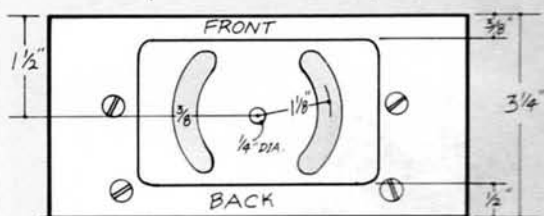
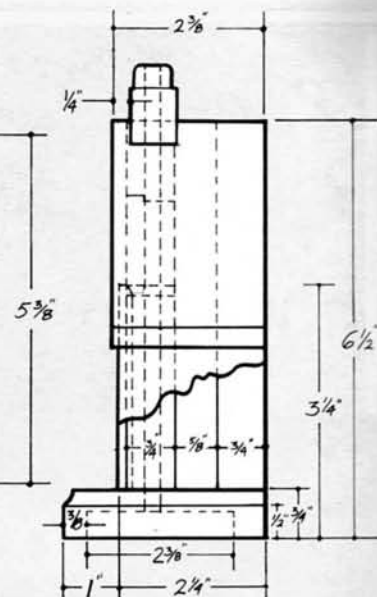
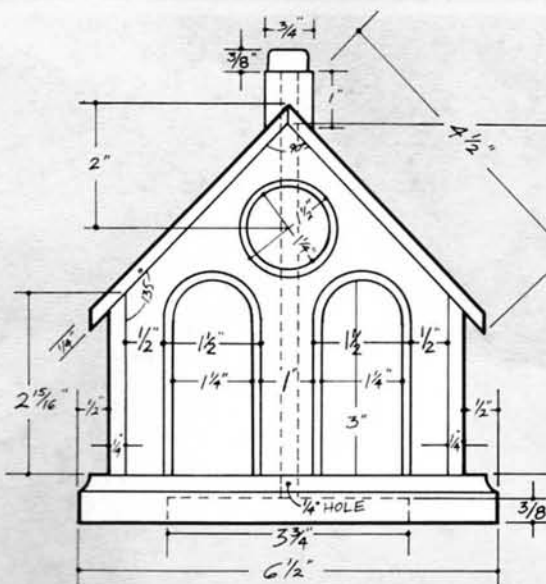
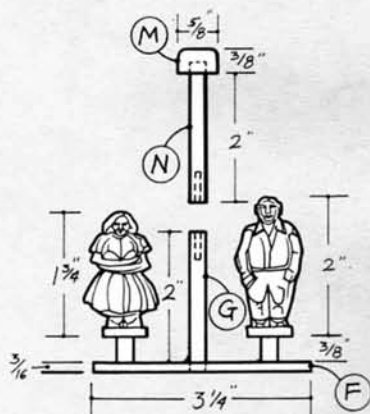
After the glue is cured, place the house upright and turn the setting knob back and forth to see that the figures move freely in their slots. If everything functions smoothly, install the sun carving (K) to cover the access hole. If you make the carving carefully, you can get a snug enough fit so you won't need any glue; that way you can remove the carving if you ever need to replace the gut. Finish the carving to match the rest of the house and press it into place.

Cover the bottom of the base with a piece of felt (O). The felt covers the pivot arm recess and also prevents the house from scratching any furniture it is placed on.

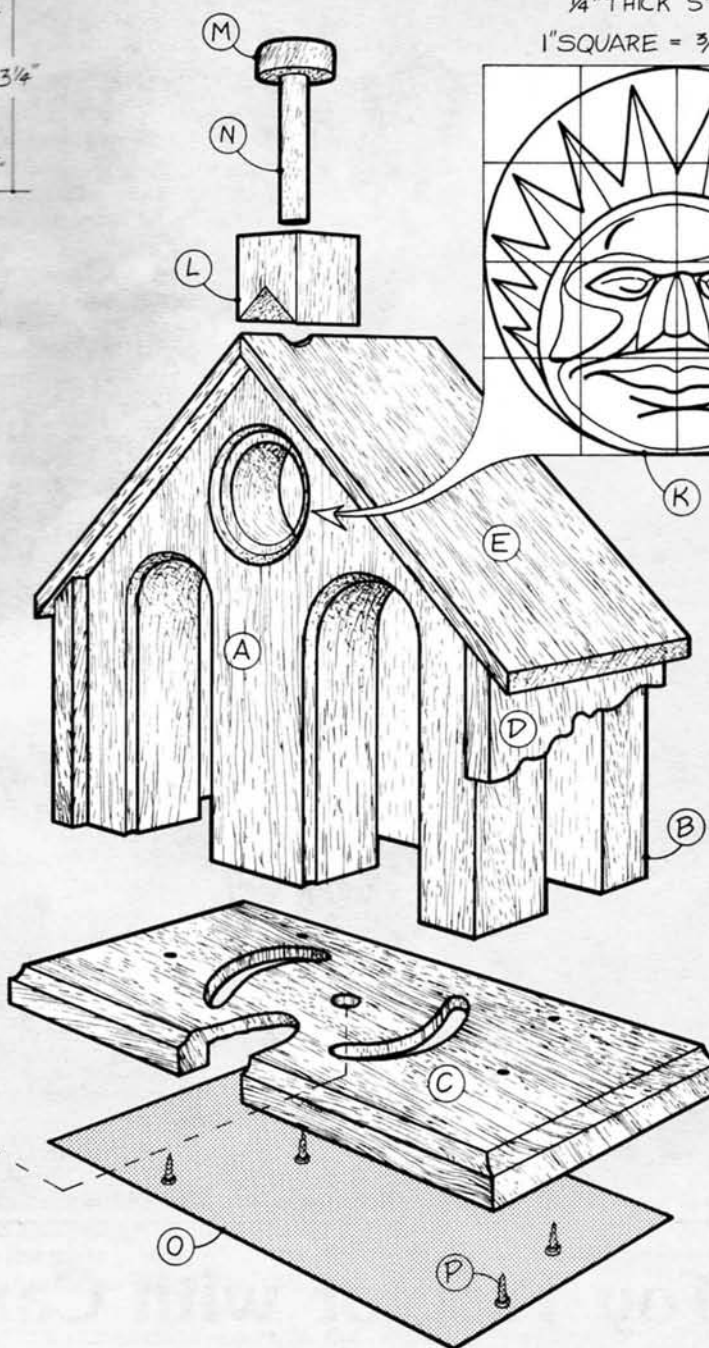
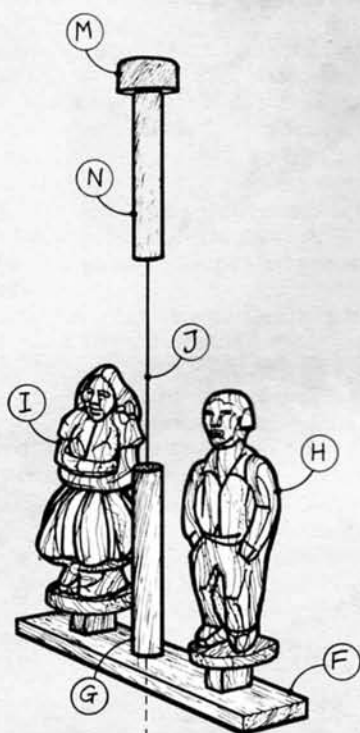
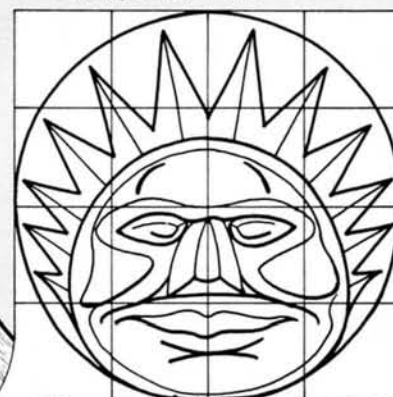
To use the forecaster, place it near a window or door where it will be most likely to get some outside air. Observe what the weather is like outside and set the forecaster by turning the setting knob. If it is stormy, turn the knob until the man is part of the way out of the door. If it is fair, turn the knob the other direction until the woman is part way out of her door. Leave the forecaster set this way for several days and observe the changes. After you have observed the movement of the figures over a period of weather change, you can make further adjustment. For example, if the initial setting was made during stormy weather, the woman should come out as the weather clears. If the man moves back some but not enough for the woman to come out, the initial setting was too far towards the stormy side. Turn the knob back a little so that the woman is slightly out of the door. After a few such adjustments, you will have the forecaster set so that the first indication of a storm will cause the woman to go inside and the man to come out. You can judge the relative strength of a storm or the length of a fair spell by how far the figures move out of the door. WJ

Bill of Materials  
(All Dimensions Actual)

| Part | Description       | Size                                                  | No. Req'd |
|------|-------------------|-------------------------------------------------------|-----------|
| A    | Front             | $\frac{1}{4} \times 5 \times 5\frac{1}{2}$            | 1         |
| B    | Back              | $\frac{1}{4} \times 5 \times 5\frac{1}{2}$            | 1         |
| C    | Base              | $\frac{1}{4} \times 3\frac{1}{4} \times 6\frac{1}{2}$ | 1         |
| D    | Side              | $\frac{1}{4} \times 2\frac{1}{4} \times 2-15/16$      | 2         |
| E    | Roof              | $\frac{1}{4} \times 2\frac{1}{2} \times 4\frac{1}{2}$ | 2         |
| F    | Pivot Arm         | $3/16 \times \frac{1}{2} \times 3\frac{3}{4}$         | 1         |
| G    | Pivot Dowel       | $\frac{1}{4}$ Dia. $\times 2-3/16$                    | 1         |
| H    | Man               | See Detail                                            | 1         |
| I    | Woman             | See Detail                                            | 1         |
| J    | Gut Violin String | "D"                                                   | 1         |
| K    | Sun Carving       | See Detail                                            | 1         |
| L    | Chimney           | $\frac{3}{4} \times \frac{3}{4} \times 1$             | 1         |
| M    | Setting Knob      | $\frac{3}{8}$ Dia. $\times \frac{3}{8}$ thick         | 1         |
| N    | Setting Dowel     | $\frac{1}{4}$ Dia. $\times 2-3/16$                    | 1         |
| O    | Felt Bottom       |                                                       | As Req'd  |
| P    | Flathead Screws   |                                                       | 4         |



1/4" THICK STOCK  
1" SQUARE = 3/8"



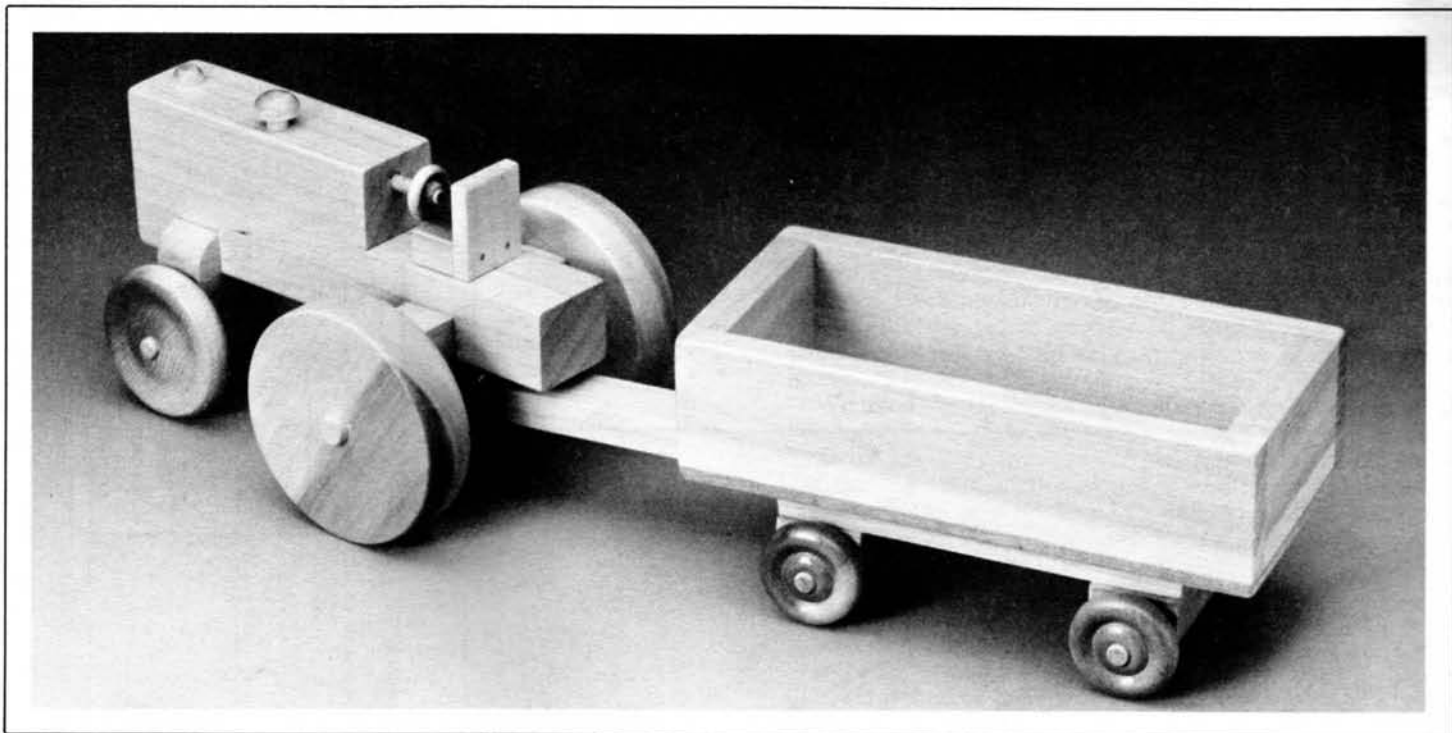
O

P

# The Gift Shop



**Toy Tractor with Cart** by C. J. Maginley



When you consider that many commercially made toys last no longer than a few weeks, it's refreshing to think that a sturdy toy like this is likely to last several generations. Poplar, which is reasonably priced, yet hard enough to stand up to rough service, was used for most parts. The cart bottom (R) is  $\frac{1}{4}$  in. mahogany plywood and the front wheels (O) and cart wheels (W) are maple.

From five-quarter stock (which actually measures  $1\frac{1}{16}$  in. thick), cut the hood (A) to a width of  $1\frac{1}{4}$  in. and a length of 4 in. Referring to the drawing, mark the location of the holes for the muffler (I) and the radiator cap (J), then use a  $\frac{1}{4}$  in. diameter drill bit to bore each hole.

The body (B) is also made from five-quarter stock. Cut to a width of  $1\frac{1}{4}$  in. and a length of  $6\frac{3}{4}$  in., then lay out and mark the location of the  $\frac{3}{8}$  in. deep by  $\frac{3}{4}$  in. wide dados for parts C and D. The dados can be cut on either the table or radial-arm saw. A  $\frac{3}{4}$  in. dado-head cutter will cut each dado with one pass, but repeated passes with a regular saw blade will also do the job.

The front and rear axle supports (parts C and D) are made from one in. nominal stock (which actually measures  $\frac{3}{4}$  in. thick). Cut to the length and width shown, then lay out and mark the location of the axle holes. Drill a  $\frac{7}{16}$  in. diameter hole through part C and a  $\frac{5}{16}$  in. diameter hole through part D. If you have one, use a drill press here because it insures that the holes will be reasonably square. However, if done with care, a hand brace or portable electric drill will do as good a job.

Parts A, B, C, and D can now be assembled. Before gluing part A to part B, drive a couple of short brads in part B, then clip the heads off so that about  $\frac{1}{8}$  in. is exposed. This will keep the two parts from sliding when clamped. Use a non-toxic glue (such as Elmer's Glue-All®) and clamp firmly. Allow to dry overnight.

Parts I and J can be turned to the dimensions shown or, if you don't have a lathe, similar pins can be ordered from the company Woodworks, 4013-A Clay Ave., Fort Worth, TX 76117. Glue in place as shown in the drawing. The steering wheel (F) can be cut using a  $\frac{3}{4}$  in. hole saw or ordered from Woodworks. Parts E, G, and H are made as shown and glued in place. Two  $\frac{1}{8}$  in. diameter dowels will add strength to the joint between. Note that the steering post (G) is not glued into the hood (A) but rather left free to turn. The seat (H) prevents it from coming out all the way.

The rear wheels (N) are best made using the lathe, although if done carefully, they can be cut on the band or saber saw and sanded smooth. The front wheels (O) can be made in the same manner or purchased from Woodworks.

The parts for the cart are cut to the dimensions shown in the bill of materials. Assemble parts P and Q with glue and clamps then set aside to dry. If necessary use clipped brads to keep the parts in line.

Assemble parts R, S, and T with glue and clamps. When dry, this unit can be assembled to parts P and Q.

The axle supports (U) can now be cut to the dimensions shown in the detail. After drilling the  $\frac{5}{16}$  in. axle hole, part U can be glued and

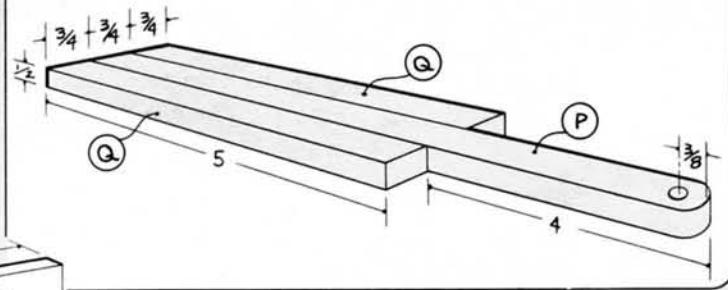
clamped to the bottom of the cart. The cart wheels (W) can be turned to the dimensions shown or purchased from Woodworks.

Give all parts a thorough sanding taking care to round all sharp edges. Final sand using 220 grit sandpaper. The best non-toxic finish is no finish at all.

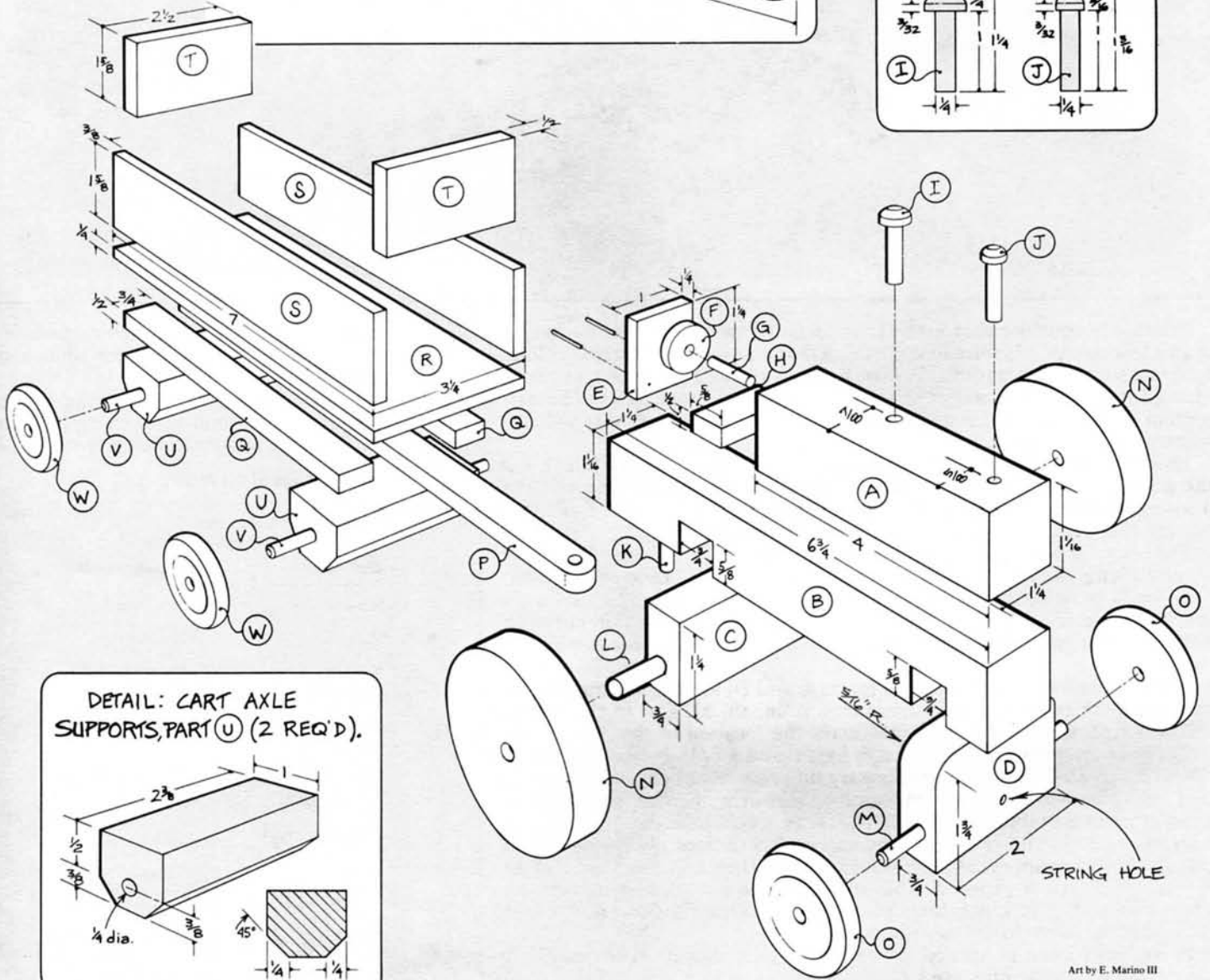
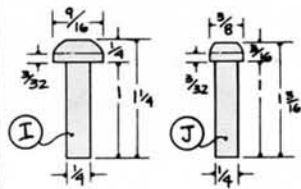
(continued on next page)

| Bill of Materials<br>(All Dimensions Actual) |                    |                                                   |           |  |
|----------------------------------------------|--------------------|---------------------------------------------------|-----------|--|
| Part                                         | Description        | Size                                              | No. Req'd |  |
| <b>Tractor</b>                               |                    |                                                   |           |  |
| A                                            | Hood               | $1\frac{1}{16}$ x $1\frac{1}{4}$ x 4              | 1         |  |
| B                                            | Body               | $1\frac{1}{16}$ x $1\frac{1}{4}$ x $6\frac{3}{4}$ | 1         |  |
| C                                            | Rear Axle Support  | $\frac{3}{4}$ x $1\frac{1}{4}$ x 3                | 1         |  |
| D                                            | Front Axle Support | $\frac{3}{4}$ x $1\frac{1}{4}$ x 2                | 1         |  |
| E                                            | Seat Back          | $\frac{1}{4}$ x 1 x $1\frac{1}{4}$                | 1         |  |
| F                                            | Steering Wheel     | $\frac{3}{16}$ thick x $\frac{3}{4}$ Dia.         | 1         |  |
| G                                            | Steering Post      | $\frac{3}{16}$ Dia. x $1\frac{1}{2}$ long         | 1         |  |
| H                                            | Seat               | $\frac{1}{2}$ x 1 x $\frac{3}{8}$                 | 1         |  |
| I                                            | Muffler            | (See Detail)                                      | 1         |  |
| J                                            | Radiator Cap       | (See Detail)                                      | 1         |  |
| K                                            | Hitch              | $\frac{1}{4}$ Dia. x $1\frac{1}{4}$ long          | 1         |  |
| L                                            | Rear Axle          | $\frac{3}{8}$ Dia. x $4\frac{1}{2}$ long          | 1         |  |
| M                                            | Front Axle         | $\frac{1}{4}$ Dia. x $3\frac{3}{8}$ long          | 1         |  |
| N                                            | Rear Wheel         | $\frac{3}{4}$ thick x 3 Dia.                      | 2         |  |
| O                                            | Front Wheel        | $\frac{1}{2}$ thick x 2 Dia.                      | 2         |  |
| <b>Cart</b>                                  |                    |                                                   |           |  |
| P                                            | Center Frame       | $\frac{1}{2}$ x $\frac{3}{4}$ x 9                 | 1         |  |
| Q                                            | End Frame          | $\frac{1}{2}$ x $\frac{3}{4}$ x 5                 | 2         |  |
| R                                            | Bottom             | $\frac{1}{4}$ x $3\frac{1}{4}$ x 7                | 1         |  |
| S                                            | Sides              | $\frac{3}{8}$ x $1\frac{1}{2}$ x 7                | 2         |  |
| T                                            | End                | $\frac{1}{2}$ x $1\frac{1}{2}$ x $2\frac{1}{2}$   | 2         |  |
| U                                            | Axle Support       | (See Detail)                                      | 2         |  |
| V                                            | Cart Axle          | $\frac{1}{4}$ Dia. x $3\frac{1}{2}$               | 2         |  |
| W                                            | Cart Wheel         | $\frac{3}{8}$ thick x $1\frac{1}{4}$ Dia.         | 4         |  |

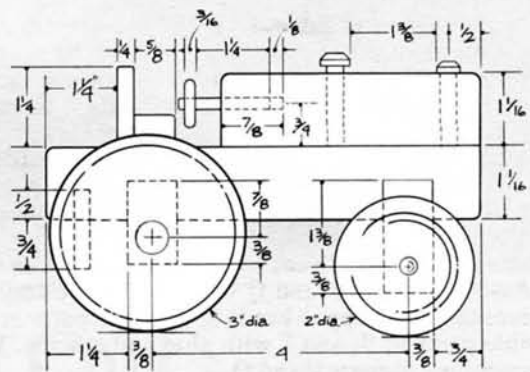
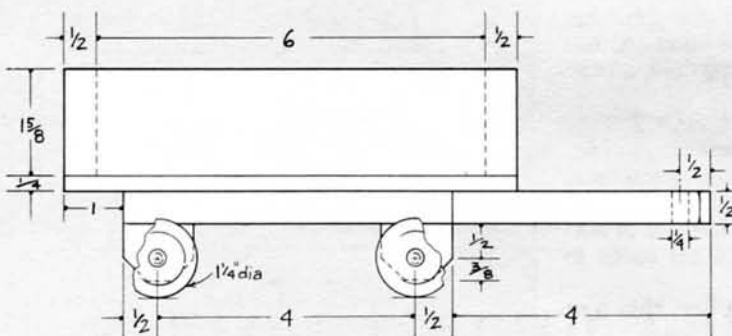
DETAIL: CART BASE, PARTS (Q) + (P)

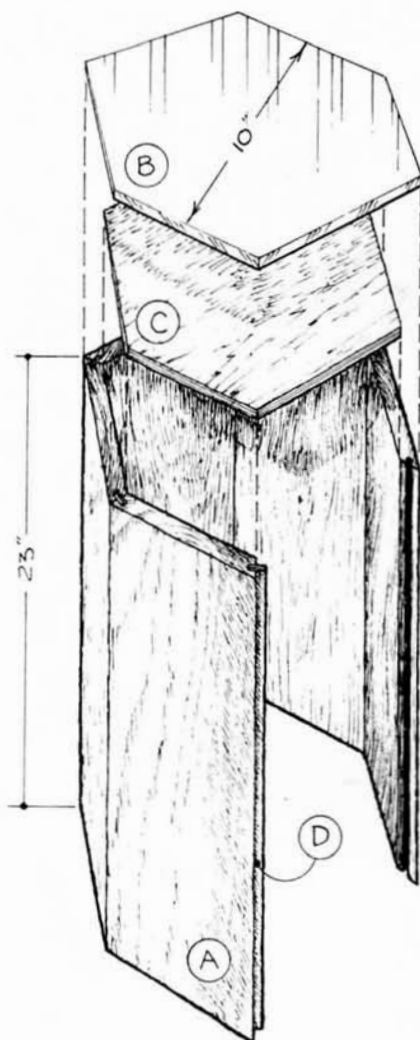


DETAIL: PEGS, PARTS (I) + (J)



Art by E. Marino III





# Display Pedestal

by Brian Johnson

This elegant looking hexagonal stand will highlight a favorite houseplant, curio, or even a piece of fine sculpture. It's easy to build and will require only a few hours in the workshop. For a piece like this, there's no hard and fast rule that dictates the size, so feel free to alter dimensions to suit the piece you plan to display. We used red oak for ours, but just about any wood can be used, even pine.

Our stand measures 10 in. across the flats which results in a board width of  $5\frac{3}{4}$  in. and a length of 23 in. Referring to Figure 1, set the sawblade at a 30 degree angle and locate the rip fence as shown. Bevel one edge (step A), then turn the stock and bevel the other edge (step B). The saw blade must be set at exactly 30 degrees because even a small error will add up to a large gap when you have six joints.

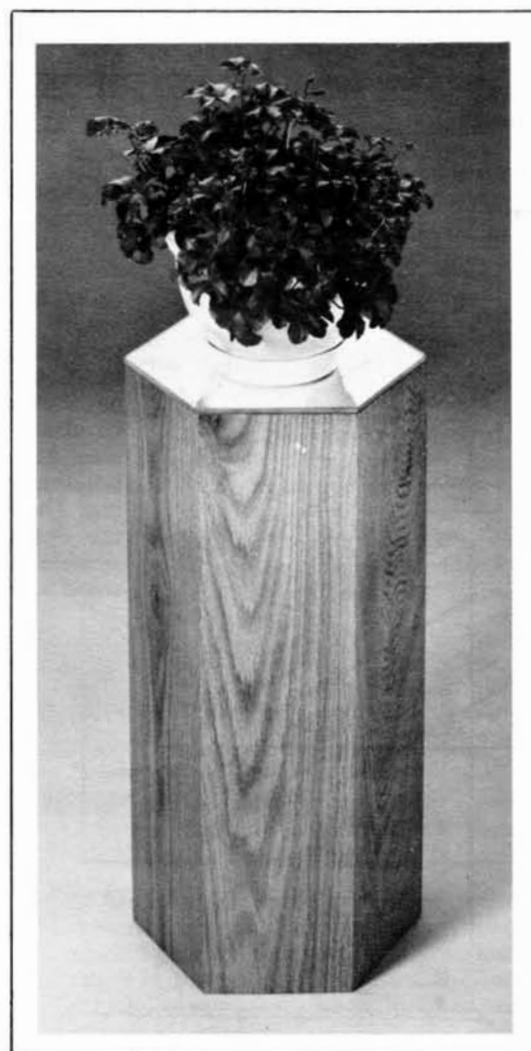
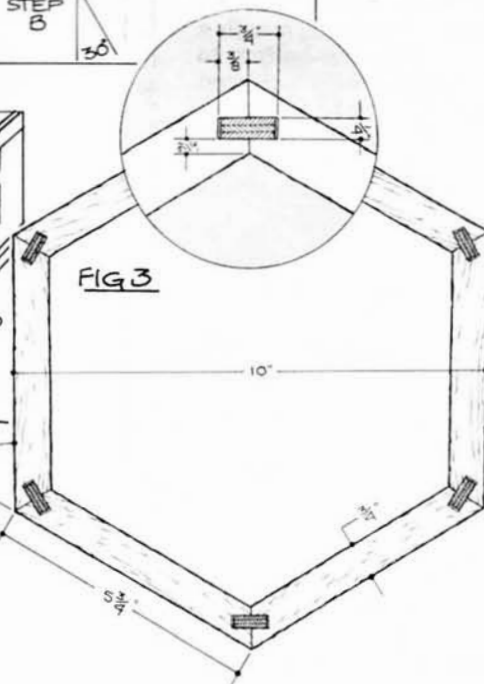
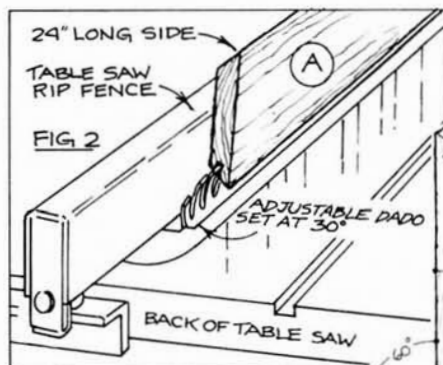
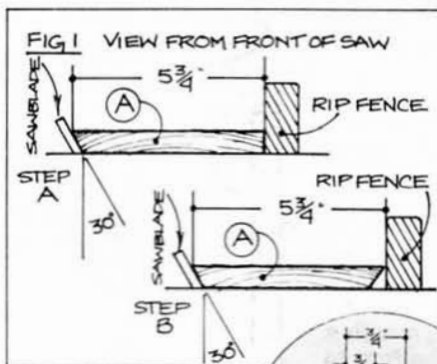
We used the table saw equipped with an adjustable dado head cutter to make the spline groove. Adjust the dado head to make a  $\frac{1}{4}$  in. wide cut, then set it at a 30 degree angle. Set the depth so the groove will be  $\frac{3}{8}$  in. deep, then adjust the table saw rip fence to properly locate the groove (see Figure 3). The spline cut is then made as shown in Figure 2.

The  $\frac{3}{4}$  in. wide splines are cut from  $\frac{1}{4}$  in. plywood. Add glue to all mating surfaces, then assemble and clamp with a pair of web clamps. Allow to dry overnight.

In order to make it easy to replace a mirror top (B) that gets scratched or broken, I glued a  $\frac{1}{4}$  in. plywood inset (C) to the underside of the glass. The inset is cut to fit just inside the box while the mirror is cut to fit the outside of the box. When glued together, a lip is formed which permits the mirror to simply sit on the pedestal. Most glass shops will cut mirror stock to any size and shape. For appearance and safety, be sure to have the edges ground. Also, keep in mind that many adhesives will remove the mirror's silver, so use one that's formulated to use with a mirror. Your glass shop will probably carry one.

Wwj

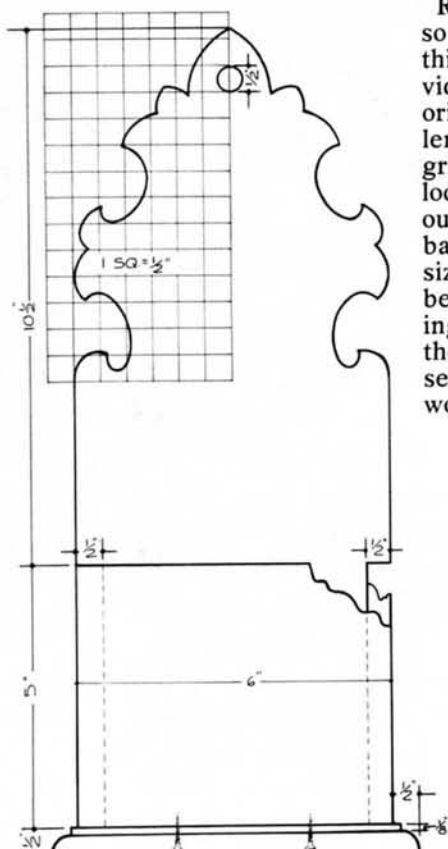
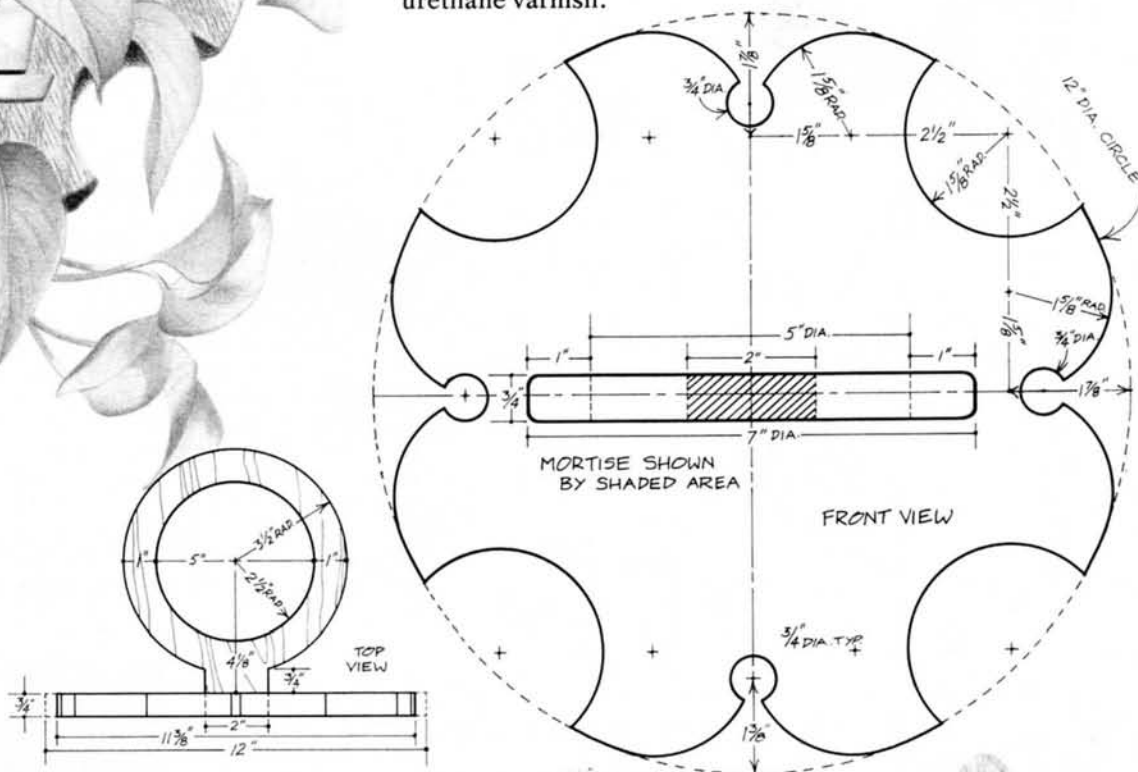
## The Gift Shop



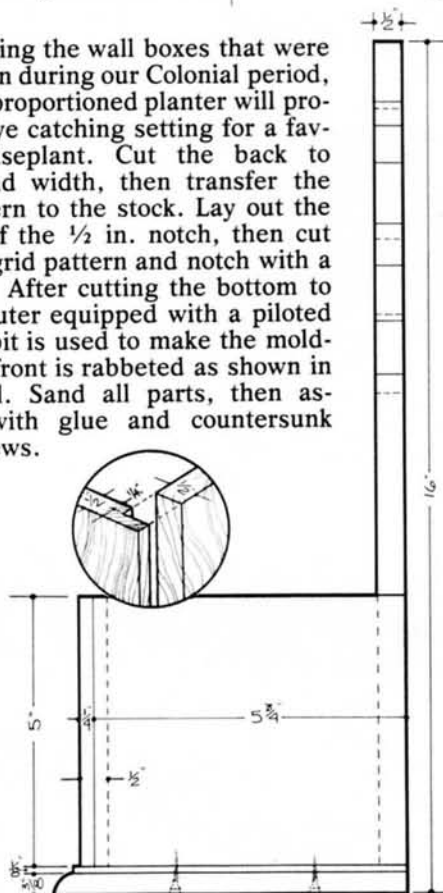
# Two Wall Hung Planters

A few hours in the workshop are all that's needed to make this unusual wall planter. Edge-glue enough stock to make a 12 in. square, then scribe and cut out the various circles as shown. Lay out and mark the location of the mortise, then cut out with a sharp chisel. The ring is made to the dimensions shown, keeping in mind that the grain direction indicated will provide maximum strength. If necessary, the inner diameter can be altered to accommodate pots of a slightly different size. Sand thoroughly, then assemble with glue. Stain to suit and final finish with two coats of polyurethane varnish.

## The Gift Shop

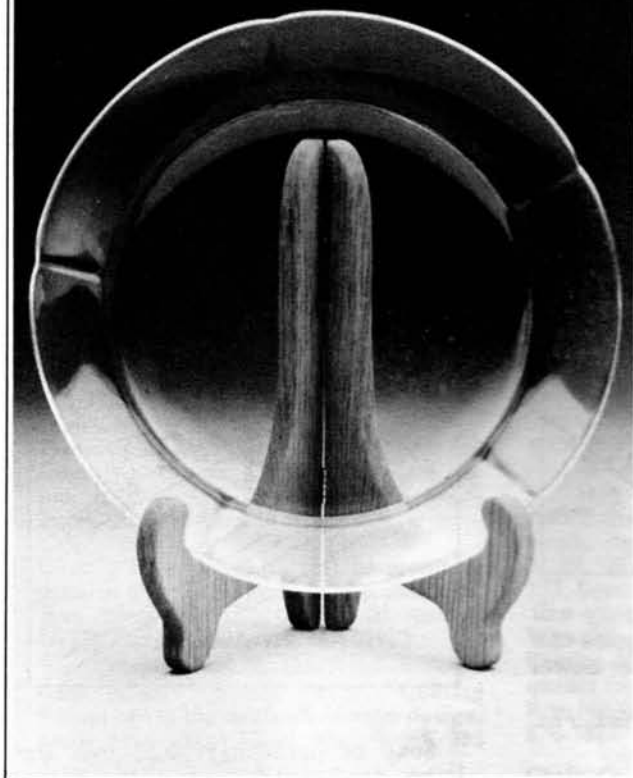


Resembling the wall boxes that were so common during our Colonial period, this well-proportioned planter will provide an eye catching setting for a favorite houseplant. Cut the back to length and width, then transfer the grid pattern to the stock. Lay out the location of the 1/2 in. notch, then cut out both grid pattern and notch with a bandsaw. After cutting the bottom to size, a router equipped with a piloted bending bit is used to make the molding. The front is rabbeted as shown in the detail. Sand all parts, then assemble with glue and countersunk wood screws.



# Collector's Plate Stand

by J. J. Ciciarelli



## The Gift Shop

HINGE  
DETAIL

TOP  
VIEW

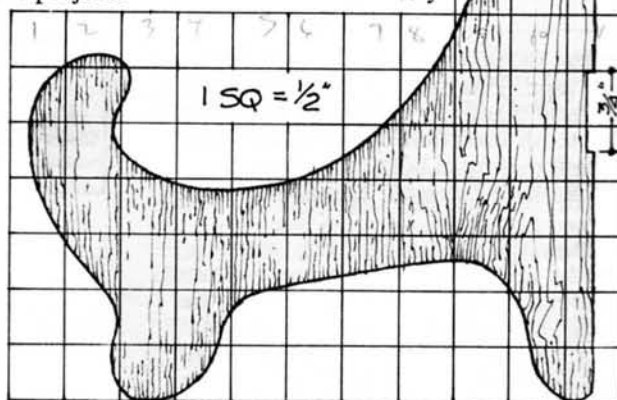
Here's an attractive way to display a favorite collector's plate. Just about any wood can be used, but cherry or walnut would be especially nice.

Each leg is made from a piece of  $\frac{3}{8}$  in. thick by  $5\frac{1}{8}$  in. wide by 9 in. long stock. If you don't have  $\frac{3}{8}$  in. stock it can be planed from thicker material or ordered via mail-order from The Woodworkers' Store, 21801 Industrial Blvd., Rogers, MN 55374.

Transfer the profile from the grid pattern to the stock, then cut out with a band, saber, or jig saw. Lay out and mark the location of the  $\frac{1}{8}$  in. notches (to accept the hinge barrel) before cutting out with a sharp chisel.

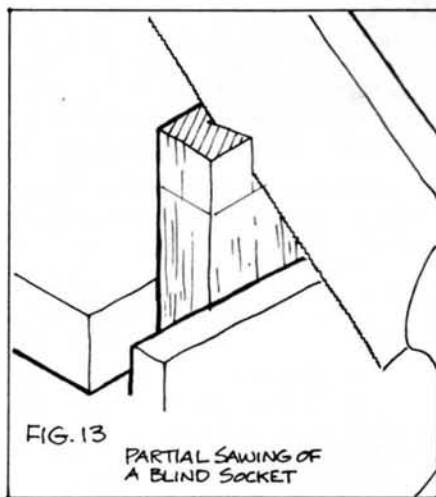
Give both legs a complete sanding taking care to make sure the curved edges are well smoothed. The addition of a pair of brass hinges and two coats of polyurethane varnish will complete the project.

W&J



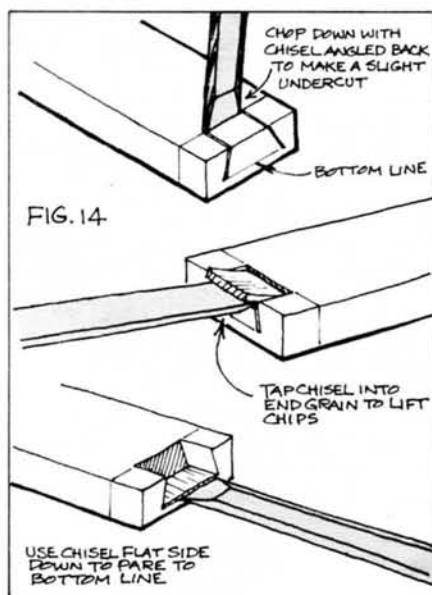
### Beginning Woodworker (cont'd)

use it to scribe the socket on the mating piece.



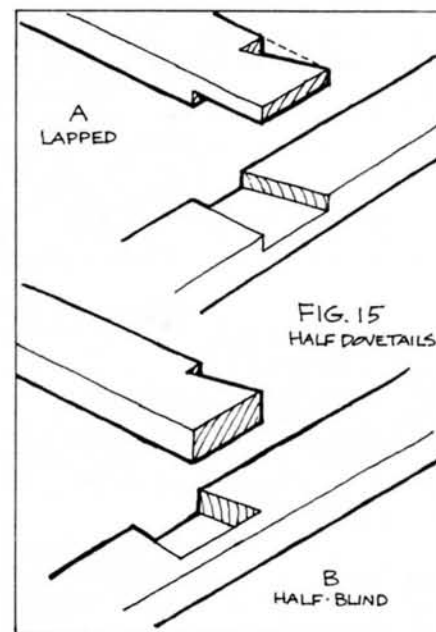
Removal of the waste from the socket can be partially accomplished by using the back saw to cut diagonally down to the socket bottom as shown in Fig. 13. The remaining waste is chiseled out in the same manner as described for the through dovetail except that all the chiseling is done from one side only. The chips are lifted out working from the end until the bottom is approached, at which time the chisel is turned flat side down and the socket

bottom is carefully pared flat and the corners cleaned out. The process is shown in Fig. 14.



Another interesting version of the single dovetail is one that was much favored by Shaker craftsmen of the 19th century. It's called a half dovetail (Fig. 15 A&B), and you can see that the dovetail is flared on one side only. It can be half-lapped and extend through the joining member, or it can be of full thickness and set in a blind socket.

The half dovetail joint is excellent for joining a thin member to a thicker one. When laying out a lapped dovetail note that the tail should be from  $\frac{1}{2}$  to  $\frac{2}{3}$  the thickness of the stock.

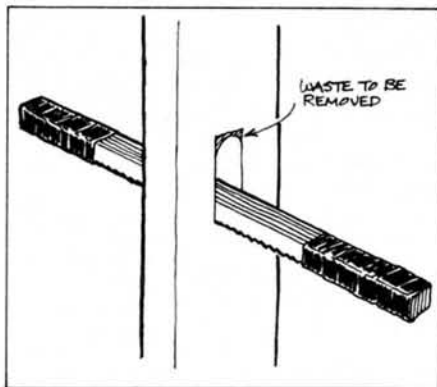


After having made a number of the dovetail joints discussed here, you should have no problem laying out and cutting the through and half-blind multiple versions as the techniques are almost identical.

W&J

# Shop Tips

To make a fast cutting file/rasp (great for cleaning out mortises and other slots), cut equal lengths of band-saw blade, then join them together by



taping at the ends with black (electrical) tape. You can make it any width, just add blades as needed. Alternating the tooth direction of the blades will permit cutting in both directions.

*Richard Tolzman, Excelsior, Minn.*

Some pieces of old rug come in handy around the workshop. When sanding, they can be put under the stock to protect it from scratches. Small pieces on the tops of sawhorses will serve the same purpose. Scraps can also be put on the floor when you need to tip a cabinet on its side to work on it.

*Paul Levine, Sherman, Conn.*

Keep a length of cotton clothes line handy for those touch-up staining jobs. Dip the end into the stain and use it like a small brush. When you're done, just snip the used part off. Next time, you've got a clean "brush" ready to use.

## Classified

The Classified Rate is 75¢ per word, payable with order. Minimum ad length is 15 words, and the deadline date is the 10th of the 2nd month preceding the issue (for example, 7/10 for the September/October issue). Send copy (count each word and initial) and check to **The Woodworker's Journal**, Classified Dept., P.O. Box 1629, New Milford, CT 06776.

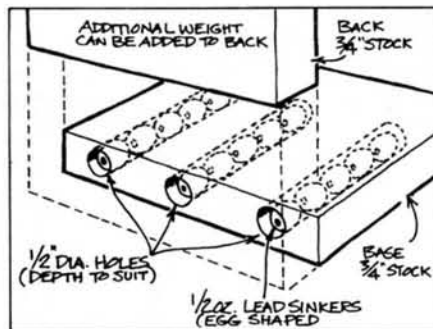
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The child's booster seat project featured in your September/October 1980 issue required a piece of one inch thick foam rubber. Rather than buy one inch material, I wanted to use some three inch thick foam rubber I had on hand. To my delight, I found that an electric knife cuts through foam rubber like a piece of cake.

*Arthur E. St. Martin, Claremont, N.H.*

Lead fishing sinkers make it easy to add weight to book ends. Simply bore 1/2 in. diameter holes, then add sinkers



as needed. A few drops of epoxy will hold them in place. Exposed holes can be plugged with 1/2 in. diameter dowel plugs.

*James E. Thompson, Lake Park, Fla.*

If the bit in your portable drill or drill press is bent out of line, try this trick: use a plastic mallet and turn the drill speed up to about 1000 R.P.M.'s, then give the drill bit a slight tap. Sometimes it will come back into perfect alignment with the first tap, sometimes it makes it worse. However, with patience and continued tapping, the bit will eventually straighten out.

*Don Kinnaman, Phoenix, Ariz.*

**Dulcimer Builders Supplies** - precision milled and fine sanded dulcimer and hammered dulcimer woods. Walnut, cherry, paduk, koa, rosewood, birdseye maple, sitka spruce, W.R. cedar. Also related hardware and strings. LSASE for price list. Folkcraft Instruments, Box 807W, Winsted, CT 06098, (203)-379-7685.

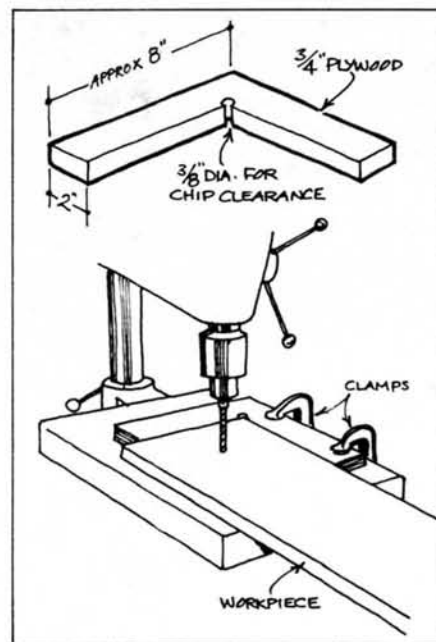
**Make Toys - Plans, Kits - Hardwood** wheels, parts, dowels. Catalog \$1.00. Cherry Tree Toys, Belmont, OH 43718.

**Save 50%+ on Bandsaw Blades, Sanding** needs - screws - prompt service - small quantities. For price list send #10 SASE. Fixmaster, Box 49511-6, Atlanta, GA 30359.

**Woodworkers Make Money** when they learn from "The Woodworker's Money Book." Covers how to sell retail and wholesale, pricing, credit, labeling, much more. Money-back guarantee. Mailed first-class for \$3.00. Inprint, Box 687, Farmingdale, NJ 07727.

When many pieces require the same hole, and the hole is located near a corner, here's a jig that can save a lot of time. The jig is simply clamped to the drill press table so that the hole is properly located.

*William Twiford, Nottoway, Va.*



Soap or paraffin rubbed into the lathe dead-center end works better than oil - it won't drip out.

*Don Kinnaman, Phoenix, Ariz.*

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.

**Ohio Professional Woodworking Supply** has the full line of 3M abrasives, Onsrud router cutters, hard-to-find fasteners, etc. at very competitive prices. Please send large SASE for our free literature and price list. P.O. Box 506, Gallipolis, OH 45631.

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**Craftsmen** - show pride in your fine work. Personalize your pieces with engraved solid brass plates. Send \$1.00 for 2 line sample plate. VB, Dept. WJ, 807 East Dana, Mountain View, CA 94040.

**Guitar Tops.** Sitka Spruce, Western Cedar. 1/4" x 8 1/2" x 22". 16 to 20 G.P.I. Excellent tonal wood for that special guitar. Satisfaction guaranteed. \$24.00 postpaid; 2 sets \$43.00. Buck Musical Instrument Products, Box 71A, New Britain, PA 18901.

## (Classified, cont'd)

Woodworkers - Gum Ball Machine Plans, \$2.50. Gil-Son's Crafts, P.O. Box C, Aransas Pass, TX 78336.

Cabinetmakers Workbench-Maple Construction, easily built. Plans \$5.00. Tool catalog 50¢. Open Air Cabinets, Dept. 102, P.O. Box 501, Batavia, IL 60510.

Wood Antique Models and other projects. Full-size patterns catalog \$1.00 refundable. Criss-Cross, Box 324, Dept. CJ, Wayne, NJ 07470.

New! (Set 2) 30 Full size patterns. Wooden Parrot, Toucan and monkey plant hangers, plus unique items with movable parts and catalog. \$4.00. Faris Brothers, 209 Division, Erlanger, KY 41018.

Catalog of Unique Wooden Toy Patterns. \$1.00 refundable. Playrite, Rt. 8, Box 343-J, Moultrie, GA 31768.

Professional Plans for 18th Century French Country Furniture. Catalog \$1.00 refundable. Stephen Osborne, Dept. WJ, Piedmont, Quebec, Canada J0R 1K0.

Over 75 Patterns! Enjoy making profitable wooden gifts, toys, household accessories, plus "Shop Secrets". Only \$5.00. Accents (J-73), Box 262, Danvers, MA 01923.

Cash in on "Quilting Fever". Quilting frames are in big demand. Unique design, easily built. Plans \$5.00. Mac, 906 S. 3rd St., St. Charles, MO 63301.

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Free! I can help you start exciting wood-working business. Write today. Pine Shop, 78-WJ2, West Peterboro, NH 03468.

Krazy Knot. The most mind-boggling puzzle you've ever seen. Send \$4.50 to Krazy Puzzle Company, P.O. Box AA, Meeker, CO 81641.

Woodturners! We make a unique technically advanced range of Teknatool accessories including specialised centres, project supplies, multipurpose chucking systems. Write for free catalog. Freight worldwide - Agent inquiries welcome. Latalex Ltd., 65 The Concourse, Henderson Auckland 8, New Zealand.

Full size pattern for toy circus wagon drawn by four horses. Includes pattern for driver plus 1 wild animal. Approx. 30" long. \$7.50. Send check or money order to C. Paul, 315 Willow Ave., Joliet, IL 60436.

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Sorby & Marples Woodworking chisel sale. Also lathe duplicator designed for Shopsmith or any 5-in-1 multi tool. Brandywine Wood & Tool, 2413 Driftwood Dr., Wilmington, DE 19810.

Grid Paper. Large sheets (27 x 34) 1" squares. 3 for \$3.50. Additional sheets 75¢. Also fine woodworking tools no frills catalog free. Brandywine Wood & Tool, 2413 Driftwood Dr., Wilmington, DE 19810.

Woodworking Plans. Catalog \$1.00, refundable. "Variety Woodcrafters", 9988 Ketch Rd., Plain City, OH 43064.

Flexible oak veneer 18" x 96" with hot melt glue \$8.00. Send LSASE for price list. Hagan's, 523 Boone Ave., Maysville, KY 41056.

Woodcarvers-6 piece Ashley-Iles carving set \$80. We carry a complete line of high quality woodworking tools and supplies. 50¢ for list. Open Air Cabinets, P.O. Box 501, Batavia, IL 60510.

Renew sanding belt, disc or drum free. Information \$2.00 plus S.A.S.E. Elbert Rude, 2013 W. 9th St., Muncie, IN 47302.

Clock Plans - Make handcrafted clocks for gifts or profit. 6 plans \$4.00. Kent Anderson, 219 Beedle Dr., Ames, IA 50010.

Fine Tools, Imported and Domestic. Hardwood, imported and domestic. Catalog \$1.00. Woodworker's Supply, P.O. Box 177, Dardanelle, AR 72834.

Whittling and Carving Tools and Supplies. Catalog 60¢. American and foreign made quality tools. Warren Tool Co., Inc., Rt. 1, Box 14AWJ, Rhinebeck, NY 12572, (914)-876-7817.

Chair Caning Supplies - cane webbing, rush, splint, ash, rawhide, cord. Catalog \$1.00, refundable. The Caning Shop (WJ), 926 Gilman, Berkeley, CA 94710.

Large selection of plans. Furniture designs, loom, spinning wheel, clocks, doll-houses, cradles, toys, alphabets, bird houses, weathervanes, kites and more. Catalog 50¢. Craftplans Co., Rogers, MN 55374.

Wooden Wheels, Bells, Smoke Stacks, beads, dolls, wooden buttons and unique toy plans. Catalog 50¢. Howee Toys, Rt. 7, Box 633WJ, Joplin, MO 64801.

Sconces. Series #10. Set of 10 plans and ideas: \$5.00. Candleholders. Series #20. Set of 10 plans and ideas. Some lathe work: \$5.00. Something Different, 1804 Old Hollow Rd., Walkertown, NC 27051.

Woodcrafts. Veteran Craftsman has experienced \$1000 craft shows, will send plans for 6 best selling wood items for \$5.00. Bennett Wood Products, Rt. 8 Box 680-S, Pensacola, FL 32506.

Unique toy plans and parts catalog, \$1.00, refundable. Tottoys, 3056 Oneida St., Sauquoit, NY 13456.

Free Plans Catalog: Lawn/patio, family room, children's furniture, toys, workbench, storage shelves, rifle cabinet, novelties. 20¢ stamp. LLE, P.O. Box 35203 J, Phoenix, AZ 85029.

Indian Ebony all black, no defects. 1 1/4 to 2 1/2 inch squares. Madison Hardwoods, 5106 Knox, Madison, WI 53711.

Doll Cradle Plans: Create a family heirloom. Detailed drawings and instructions. The most beautiful, solid, well built cradle you've ever seen. I also tell how to obtain a professional finish (giving brand names of products) without using sticky varnish or lacquers. \$5.00. Norwegian Woods, Box 366, Dept. 12C, Flagstaff, AZ 86002.

Lowest prices on furniture pins, plugs, buttons, Shaker and mug pegs, toy parts, more, list \$1.00. Special 3/8" or 1/2" maple buttons \$2.69 per 100 ppd, \$8.95 per 500 ppd. K & K Woodcrafters, RD 4, Box 270A, Scotia, NY 12302.

Covered Wagon Lamp Plans-tongue acts as switch. Easy to follow step-by-step instructions. Send \$4.00 to Hattaway Woodcrafts, 104 Estates Dr., Opp, AL 36467.

Rolltop Desk, complete detailed plans, raised panel construction. Send \$5.95 to: Bud's Plans, 2960 Egan Ave., Eagan, MN 55121.

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Burlwood slabs--all sizes. Redwood, Buckeye, Birdseye Maple, Myrtlewood, Juniper. Myrtlewood dimensional lumber. Turning stock. Clock movements, pens, belt buckle hardware, Polytex. Redwood BurlEsque, Dept. WJ7, 1454 Orchard Home Dr., Medford, OR 97501.

Butcher Block Table Plans. #PL 101 \$4.00. R. Hursey Woodworks, Box 1064, Belleville, IL 62223.

Free catalog! Veneers, wood toy parts/plans, lumber, books, furniture plans, cane, upholstery, Victorian hardware. Simplified veneering instructions included. Hurry! Morgan, W04M04, 1123 Bardstown, Louisville, KY 40204.

Wooden Toys, Wheels, Parts, Patterns. Send \$1.00 for catalog. Toys and Joys, Box 628-CB, Lynden, WA 98264.

Swedish Door Harp Plans \$4.95, Accessory Kit \$5.95, both for only \$8.00 with this ad! Custom Woodworking, P.O. Box 8621J, Erie, PA 16505.

Monkey Grind Organ - Authentic replica uses tape player. Complete plans with cassette recording from real antiques \$9.95 PP. A.I.D. Corp., P.O. Box 626, Apopka, FL 32703.

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# Shop Notes