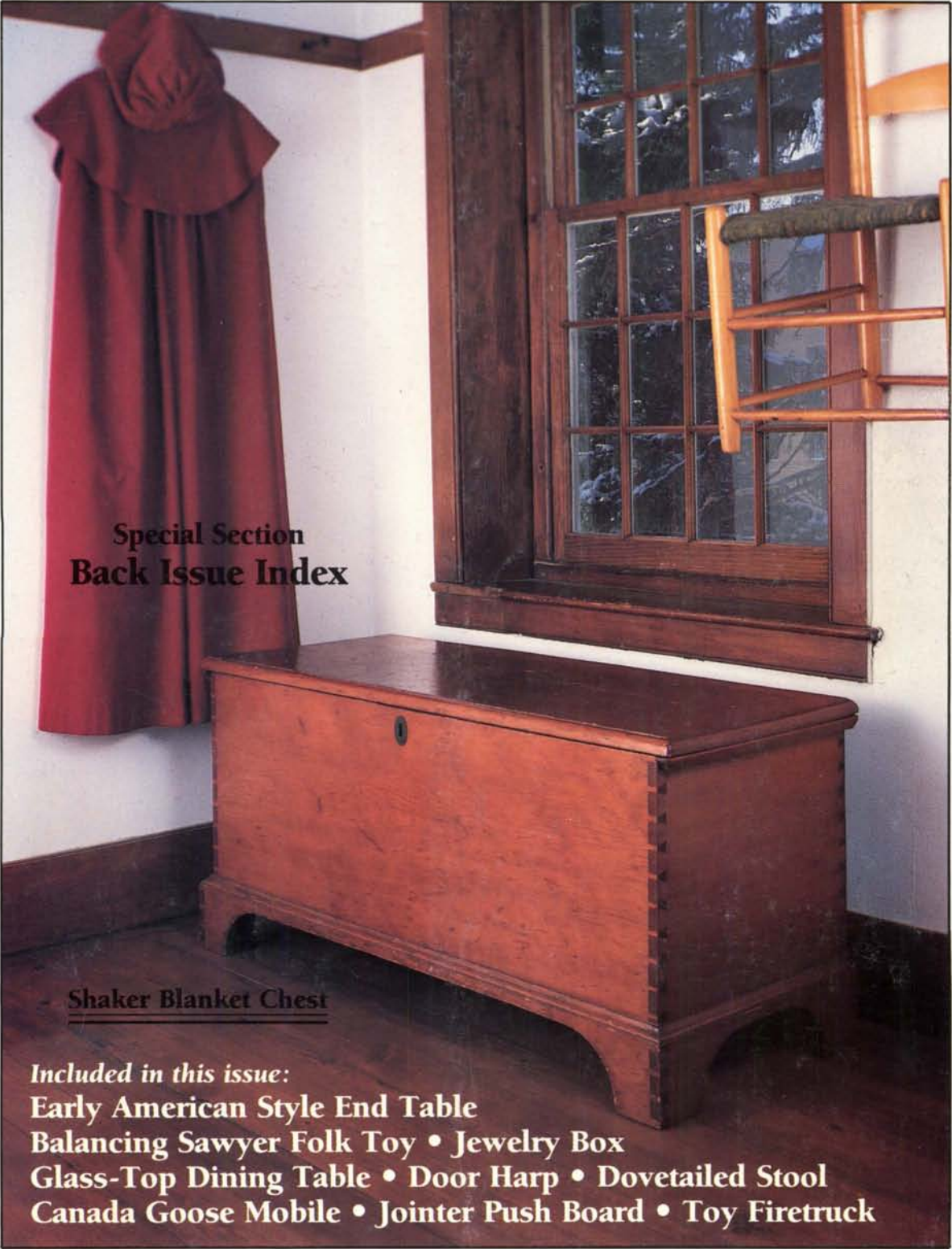


# The Woodworker's Journal

Vol. 11, No. 1 \$3.00



Special Section  
Back Issue Index

Shaker Blanket Chest

*Included in this issue:*

Early American Style End Table

Balancing Sawyer Folk Toy • Jewelry Box

Glass-Top Dining Table • Door Harp • Dovetailed Stool

Canada Goose Mobile • Jointer Push Board • Toy Firetruck

January/February 1987

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# The Woodworker's Journal

JANUARY/FEBRUARY 1987 VOLUME 11, NUMBER 1

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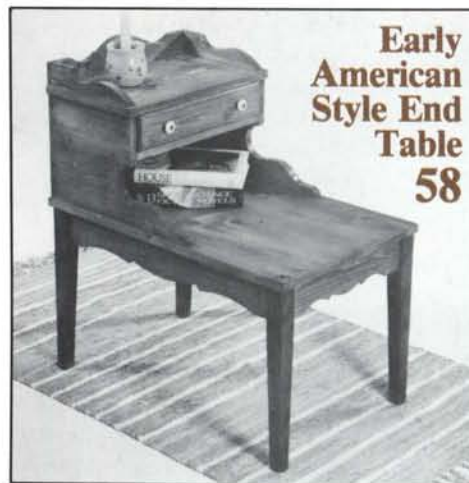
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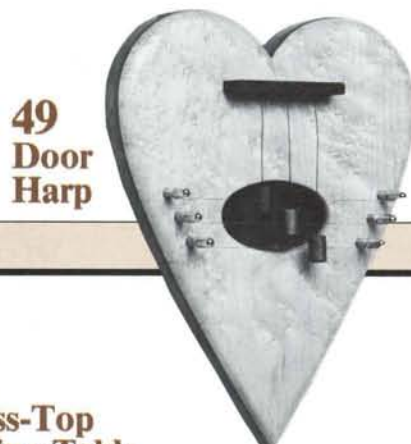
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**40  
Glass-Top  
Dining Table**

# Shoptalk

In the first week of January 1977, I bundled and tied 2000 copies of the first issue of *The Woodworker's Journal* as they came off the web press at the local newspaper plant. I'd cleaned and helped with the running of that press for many years as an employee of *The New Milford Times*, and suddenly I was both an employee and a customer. My boss, Bob Barraclough, had encouraged me in my venture into the publishing business and had agreed to schedule a printing of my fledgling tabloid for a reasonable price.

Two months earlier, my dining room table had been headquarters for the production of the first issue, although at that point, I did not yet have a single subscriber. The first two subscriptions came on December 10, 1976. The next day there were 12 envelopes in the little post office box, and then there were 22 . . . and so it all began.

Circulation grew to 10,000 during the next year and Tom and Pat joined me. Sometimes, late at night, while working in the shop or hunched over my drawing board, I would think about all those subscribers who had sent me their checks as payment in advance for six issues that did not yet exist. The good faith and expectations of thousands of people was, and still is, an immensely powerful motivating force when one is tired or feeling a bit "down". I'll admit that I was sometimes frightened by the growth of my creation, and longed to hit the STOP button for a chance to collect myself. But most of the time I was just too exhilarated and busy to indulge in such counterproductive thought.

My recollections of those early years of *The Woodworker's Journal* are often of the problems that seemed to sprout and multiply as deadline day approached. But I remember well the blissful euphoria when another issue was finally delivered to the post office. That would last about two days and then it was time to start another issue.

Early in 1979, I broke a leg and dislocated the ankle while ice skating. For eight weeks I clumped around with a full leg cast and crutches, and managed to get into the basement shop by bumping down the stairs on my posterior while holding the leg extended. We will always remember the March/April '79 issue as the "leg issue".

Page layouts and a lot of other chores were done on the trusty dining room table, which was fine except for our two cats who enjoyed getting into the thick of the action. One day, after a romp in the snow, my Siamese cat Chocolate made himself a bed on a large sheet of artwork that had taken ten gritty hours to draw. Wet fur and water-soluble ink combined to produce a totally new and useless art form. Chocolate used up another of his nine lives that day and survived the incident.

We outgrew my house in '79 and, still stumping around with crutches, I began searching for new headquarters. The leg was mended by the time we moved to 25 Town View Drive at the south end of town. For a few months we reveled in the new space but it quickly filled up with people who joined us in what, at times, must have seemed a lunatic venture.

About the time we abandoned the newsprint tabloid in favor of a magazine format, we started getting cold stares from some neighbors; probably because we were hogging all

the available parking spaces. In one year our headquarters had become hopelessly cramped and we began what turned out to be a two year effort to secure land and erect our present building.

Moving day in January 1984 was snowy and bleak. One of the moving vans turned into the driveway and into the path of an oncoming car. The resulting accident was quite bad but miraculously there were no serious injuries. I had witnessed the accident in shocked disbelief and later felt that it was a bad omen. But I was wrong. In the spring when the landscaping was completed, the new office building was lovely, and area residents began dropping by to compliment us on the distinctive architecture and inquire as to what kind of finish we put on the siding (it's unstained cedar with two coats of clear preservative). So now here we are two years later and the offices are beginning to look a bit cluttered again . . . or is it my imagination?

From the beginning, I needed all the help and advice I could get, and many friends — old and new — provided both, for which I am deeply grateful. To list them all would require more than the available space, but I would like to mention one gentleman who can best represent all.

Good fortune directed me to Henry Diamond of Sherman, Connecticut in the spring of 1977. He was a young 81 years at that time and, although retired as an artist, architect, cabinetmaker and designer, he remained very interested in the arts, woodworking and just about everything else in the past, present and future. Several of our projects were early American pieces that Henry had originally designed, built and sold from his shop in Glen Head, New York, and two of our early covers were done by him.

Over the past nine years he has examined, with his critical artist's eye, each new issue of *The Woodworker's Journal*, and although generally praising our efforts, he does not hesitate to let me know if a design or some artwork is not to his liking. Somewhere along the way, he even taught me his method of quickly doing drawings with two vanishing points.

Henry is 90 now and although temporarily disabled with a broken hip, he is too vital a person to remain inactive for long. This coming Memorial Day I expect that he will again don the naval uniform he wore in 1918 (and which still fits his lanky frame), and appear in the local parade as he has done in years past. Henry, this 10th anniversary issue is for you.

The odds against a magazine surviving ten years are great and most fail within two years of their launching. I'm very grateful to have reached this milestone, and in wrapping up this 61st issue, would like to thank the staff . . . good scouts all, who manage to do what needs to be done and do it well.

Keeping a magazine alive and thriving is not unlike doing a juggling act. The receipts and expenses are the balls and Indian clubs, and while keeping them all in the air and in proper relation to one another, we must also keep pleasing the audience. Thank you, readers . . . for being such a good and supportive audience. Now let's get started on another decade of woodworking.

Jim McQuillan

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# Letters

While you putter about the shop working on projects for future issues, I would like to suggest that you think about technology versus the old ways. I started my shop with power tools and all the latest gizmos. As a novice, power tools made up for a lack of skill and knowledge. As I learned more about working wood, developed some basic skills and became an amateur, I found that power tools had definite limitations and, in many cases, an old hand tool was far more satisfying to use and produced a superior result. Don't get me wrong, I use power tools and there is a definite place for them, but there are alternatives. I would like to think that I am almost a craftsman now that I am doing some of my own design and making some of my own tools. I'm even thinking of selling some of my power tools because I seldom use them now.

Joseph P. Bremmer  
Phillips Ranch, Calif.

Keep up the good work at the "Journal". I particularly like the Early American style projects that you regularly feature. In fact, I made several of the Shaker oval boxes that were featured in the March/April 1986 issue. A length of plastic sewer pipe serves as my "steam box," and I let the thin wood steam for 20-30 minutes. For the tacks (pins), I found that split copper rivets worked well.

Donald B. Snell  
Bringinghurst, Ind.

I just can't stand to see one more "blah" piece of Shaker furniture. It seems to be something you are really taken with, and that's fine, but it's not for me.

Bob Kjonaas  
Minot, N.D.

I've only been woodworking for a short time and I don't have thousands

of dollars worth of equipment, nor do I have years of experience. How about some simple yet functional projects for people like me?

Ron Butler  
Rockville Centre, N.Y.

Can you provide me with a source for cyanoacrylate glue? This product has been highly recommended for a special problem I'm working on with rosewood, but I can't find a supplier. One brand I have heard of is called "Hot Stuff".

Douglas B. Hammer  
Solon Springs, Wisc.

"Hot Stuff" cyanoacrylate adhesive is distributed by Craft Supplies, 1644 South State Street, Provo, UT 84601 (telephone: (801) 373-0917) and Craft Woods, 10921 York Road, Cockeysville, MD 21030 (telephone: (301) 667-9663). There are three types: Regular (which has a watery consisten-

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cy), *Super T* (with a consistency of thin glue) and *Special T* (which is very thick). They also sell an accelerator called "Hot Shot" which provides a quicker bond and improves the gap filling properties.

I'm opening a small custom sign shop and am looking for sign carving machines. Can you tell me the names of any manufacturers?

Eli S. Cogar  
Houghton Lake, Mich.

You can write to or call Kimball Woodcarver, 2602 Whitaker St., Savannah, GA 31401, (912) 232-6561 for information on their Model K-3 carving machine. Marlin Industries, 1911 Obispo Ave., Long Beach, CA 90804, (213) 498-0767 manufactures three models of carving machines, all of which operate on the pantograph principle. Also, the *Power and Hand Tool Catalog* from Sears includes a *Craftsman Rout-A-Signer*.

When developing a new project, I like to make a permanent pattern for future use. I've found that linoleum is an excellent material for making the patterns. Scrap pieces are available at one of the local carpet businesses.

The patterns can be drawn on the clear back, and linoleum cuts easily to any shape. A hole bored near an edge allows me to hang them out of the way. Before putting a pattern away, I'll use the clear back to add notes that may be of help next time I build the piece.

Bill Price, Sr.  
Wilson, N.C.

I'm in need of plans for a piecrust tilt-top table. Can you help?

James Hafer  
Friedens, Penn.

We know where you can get plans for a tilt-top table, but it does not have a piecrust edge. It's still a handsome design though, with ball-and-claw feet and a top that measures 35½ in. in

diameter. The plans are available from the Garrett Wade Co., 161 Ave. of the Americas, New York, NY 10013. The current price is \$7.50 plus \$2.60 shipping and handling.

While stationed in Korea I learned to work with mother-of-pearl inlay. I'd like to start using it on some furniture but I can't find a source. Can you offer any help?

Thomas E. Allen  
McLeansboro, Ill.

Mother-of-pearl inlay is available from:

Zaharoff Industries  
26 Max Avenue  
Hicksville, NY 11801  
(516) 935-9816

and

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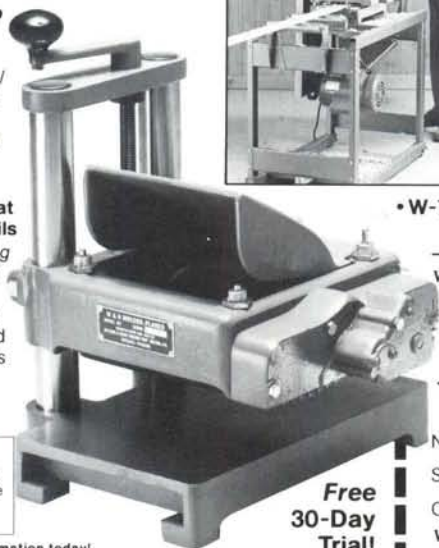
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| SU6200 Finishing Sand. 1/2 Sheet  | 142  | 88   |
| 87075 3x21" dustless Belt Sand.   | 179  | 116  |
| 87100 3x24" dustless Belt Sand.   | 208  | 140  |
| 87200A 4x24" dustless Belt Sand.  | 269  | 165  |
| D100VR 3/8" VSR 0-1200 rpm drill. | 91   | 49   |
| W640 7/16" 13 amp circular saw    | 158  | 99   |
| W740 8 1/4" 13 amp circular saw   | 171  | 109  |
| JS60 Jig Saw-Single Speed         | 172  | 99   |
| JS650 Jig Saw-electronic v/speed  | 198  | 123  |
| R150 1 H.P. Plunge Router         | 138  | 86   |
| R330 2 H.P. Router                | 220  | 138  |
| R500 3 H.P. Router                | 265  | 163  |
| E3800 Drywall screwdriver 0-4000  | 126  | 79   |
| L120U 3/8" Planer                 | 142  | 89   |
| B01020R 3/8" 2-spd Cordless Drill |      |      |
| w/ free holster-Xtra special buy  | 148  | 95   |
| TS251U 10" Mitre Box              | 300  | 169  |
| SG1150C 4 1/2" H.D. Mini-Grinder  | 99   | 59   |

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|-----------------------------------|------|------|
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| 0234-1 1/2" drill 4.5A magnum     | 173  | 112  |
| 0244-1 1/2" drill 4.5A magnum     | 173  | 115  |
| 0228-1 3/8" drill 3.3A 0-100 rpm  | 159  | 99   |
| 0228-1 3/8" drill 3.3A 0-1000 rpm | 139  | 92   |
| 0375-1 3/8" close quarter drill   |      |      |
| — NEW — 3.5 amp                   | 191  | 118  |
| 0210-1 3/8" cordless drill        |      |      |
| — NEW — 2 speed                   | 189  | 95   |
| 6539-1 cordless screwdriver       |      |      |
| — NEW — 190 RPM                   | 99   | 59   |
| 1007-1 1/2" drill 4.5A D-Hd       | 217  | 145  |
| 1107-1 1/2" drill 4.5A D-Hd       | 222  | 145  |
| 3300-1 magnum rt angle drive kit  | 271  | 170  |
| 3102-1 Plmbrs rt angle drill kit  | 287  | 180  |
| 1676-1 HD Hole Hawg w/cse 2 sp    | 363  | 235  |
| 5395 3/8" sgle sp hammer drill kt | 203  | 150  |
| 5397 3/8" var sp hammer drill kt  | 208  | 155  |
| 5371-1 HD mag. hammer drill 1/2"  | 313  | 207  |
| 5373 HD mag. hammer drill 3/8"    | 262  | 175  |
| 5611 2 speed Sawzall w/case       | 197  | 122  |
| 6226 port band saw 2 sp w/case    | 416  | 280  |
| 6234 TSC band saw port w/case     | 416  | 280  |
| 6405 8 1/4" circ. saw 13 amp      | 191  | 127  |
| 6400 1 1/2" HP router 10 amp      | 289  | 175  |
| 6400 2 HP router 12 amp           | 342  | 220  |

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|-------------------------------|-----|-----|
| 6753-1 3.5 amp 0-4000 rpm new | 125 | 79  |
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| 6750-1 4.5 amp 0-4000 rpm     | 141 | 90  |

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Model 0212-1 Cordless  
Variable Speed 3/8" Drill  
LIST...\$209.00 SALE...\$125.00

Model 6145 — 4 1/2" Sander-Grinder  
LIST...\$149.00 SPECIAL SALE...\$85.00

## Go Cordless with MILWAUKEE

#6305 — 6 1/4" Cordless Circular Saw  
12 volt — 1 Hour Charge  
Cuts (80) 2x4's (Pine)  
List Price \$229.00 \* SALE PRICE \$119.00

## FREUD SAW BLADES

Univ. Bore — Professional Series  
CARBIDE TIPPED SAWBLADES

| Item No. | Description  | Diam.  | Teeth | List  | Sale  |
|----------|--------------|--------|-------|-------|-------|
| PS203    | Gen'l Purp.  | 7 1/2" | 24    | 27.24 | 17.50 |
| PS303    | Fine cutting | 7 1/4" | 40    | 32.97 | 20.50 |

## 5/8" Bore — Industrial Grade

CARBIDE TIPPED SAWBLADES

| Item No. | Description         | Diam. | Teeth | List   | Sale |
|----------|---------------------|-------|-------|--------|------|
| LU72M010 | Gen'l Purp.         | 10"   | 40    | 68.58  | 34   |
| LU81M010 | Gen'l Purp.         | 10"   | 40    | 69.30  | 35   |
| LU73M010 | Cut-Off             | 10"   | 60    | 79.65  | 36   |
| LU82M010 | Cut-Off             | 10"   | 60    | 86.40  | 44   |
| LU84M010 | Combination         | 10"   | 40    | 70.99  | 36   |
| LU84M011 | Combination         | 10"   | 50    | 74.51  | 37   |
| LU85M010 | Super Cut-Off       | 10"   | 80    | 110.88 | 62   |
| LM72M010 | Ripping             | 10"   | 24    | 64.85  | 34   |
| DS 306   | 8" Dado             |       |       | 139.00 | 92   |
| DS 308   | 8" Dado             |       |       | 170.00 | 105  |
| TR 100   | 3 blades & Dado set |       |       | 399.00 | 255  |

## MAKITA CORDLESS FESTIVAL OF VALUES

| Model                           | List | Sale |
|---------------------------------|------|------|
| 4300DW Jig Saw                  | 158  | 99   |
| 5081DW 3/8" Saw Kit             | 174  | 95   |
| 5600DW 6 1/4" Circular Saw      | 224  | 125  |
| 9035DW Finishing Sander         | 128  | 73   |
| 6010DWK 3/8" Cordless Drill Kit | 152  | 88   |
| 6010SDW 3/8" Cordless Drill     | 84   | 45   |
| 8400DW 3/8" Hammer Drill        | 188  | 105  |
| DA3000DW 3/8" Angle Drill       | 176  | 98   |
| 6010DL 3/8" Drill w/Flashlight  | 162  | 89   |
| 6012HDW 3/8" 2 spd Driver Drill |      |      |
| w/Bat & Metal Case              | 178  | 98   |
| DK1002 3/8" Drill w/Fluornt Lt. | 164  | 90   |
| 6710DW Cordless Screwdrvr Kit   | 148  | 84   |

## LEIGH DOVETAIL JIGS

| Model    | List | Sale |
|----------|------|------|
| TD514    | 149  | 125  |
| TD514L   | 219  | 195  |
| D1258-12 | 299  | 245  |
| D1258-24 | 359  | 275  |

## MAKITA BRAND NEW X-TRA SPECIAL

| Model                            | List | Sale |
|----------------------------------|------|------|
| 5007NBA 7 1/4" Saw w/Elec. Brake | 186  | 115  |
| 5008NBA 8 1/4" Saw w/Elec. Brake | 212  | 130  |

## MAKITA TOOLS

|                                 | List | Sale |
|---------------------------------|------|------|
| 804510 Sander                   | 86   | 43   |
| 99008 3" x 21" belt sander      | 218  | 119  |
| 99248 3" x 24" belt sander      | 208  | 130  |
| 99240B 3" x 24" b/sander w/bag  | 234  | 130  |
| 9035 1/2 sheet finish sander    | 88   | 48   |
| 9045H 1/2 sheet finish sander   | 184  | 90   |
| 9045N 1/4 sht fin. sand. w/bag  | 184  | 105  |
| 4200N 4 3/8" circ. saw 7.5 amp  | 168  | 93   |
| 5008NB 8 1/4" circ. saw 13 amp  | 198  | 105  |
| 5201NA 10 1/4" circ. saw 12 amp | 398  | 215  |
| 4300BV v/sp jig saw 3.5 amp     | 218  | 120  |
| 4301BV orb v/sp jig saw 3.5 amp | 230  | 125  |
| JR3000V 2 sp recip saw w/cse    | 188  | 120  |
| JR3000W v/sp recip saw w/cse    | 198  | 120  |

## MAKITA TOOLS

SPECIAL PROMOTION  
LS1000 New 10" Mitre Box 368 198

|                                 |     |     |
|---------------------------------|-----|-----|
| 792210-7A Carbide Bid for above | 49  | 31  |
| 9820-2 Blade Sharpener          | 268 | 159 |
| 741074-9 60 (coarse) Grd Whl    | 33  | 23  |
| 741070-7 6000 (fine) Grd Whl    | 31  | 22  |
| 741071-5 1000 (med) Grd Whl     | 43  | 30  |

|                                                 |      |      |
|-------------------------------------------------|------|------|
| 1900BW 3 1/4" planer w/case                     | 178  | 92   |
| 1100HD 3 1/4" planer w/case                     | 312  | 160  |
| 3608BK 3/4 hp router w/case                     | 132  | 85   |
| 3601B 1 3/8 hp router                           | 198  | 115  |
| 3700B 1/2 hp trimmer                            |      |      |
| 28,000 rpm                                      | 148  | 82   |
| 804530 6" Round Sander                          | 90   | 48   |
| DA3000 3/8" angle drill                         | 188  | 105  |
| PA4700 1 1/2 v/sp w/rev 4.8 amp                 | 172  | 92   |
| HP1030W w/case                                  | 158  | 98   |
| 6300LR 1/2" angle drill w/rev                   | 268  | 152  |
| 84198B-2W 1/2" s. sp. hammer drill w/case       | 268  | 150  |
| GV5000 Disc Sander                              | 98   | 53   |
| 6800DB 2500 rpm 3.5 amp                         | 134  | 79   |
| 6800DBV 0-2500 rpm 3.5 amp                      | 144  | 89   |
| 6801DB 4000 rpm 3.5 amp                         | 134  | 79   |
| 6801DBV 0-4000 rpm 3.5 amp                      | 144  | 89   |
| 2030N 12" planer/jointer                        | 2360 | 1475 |
| 2040 15 5/8" planer                             | 1930 | 1195 |
| 1805B 6 1/8" planer kit w/case                  | 466  | 265  |
| JV1600 var. speed jig saw                       | 162  | 89   |
| JV2000 var. speed orb. jig saw                  | 188  | 100  |
| 5005BA 5 1/2" circular saw                      | 176  | 98   |
| 8 amp. with brake                               |      |      |
| 9207SPC 7" varispeed electronic sander-polisher | 238  | 130  |
| 9303BH 4 1/2" sander-grinder kit                | 146  | 95   |
| 4014NV 4 1/2" varispeed blower                  | 138  | 79   |

## DELTA — BRAND NEW

| Model                               | List | Sale |
|-------------------------------------|------|------|
| 34-080 10" Mitre Box w/rotary table | 279  | 179  |

Repeat of a Sellout  
DELTA — SUPER SPECIAL

|                                                  |      |     |
|--------------------------------------------------|------|-----|
| 40-601 18" Electronic v/sp scroll saw — complete | 1117 | 679 |
|--------------------------------------------------|------|-----|

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Model STANLEY List Sale

|                               |       |      |
|-------------------------------|-------|------|
| 33-116 PL-316 3/4" x 16" Rule | 15.95 | 7.50 |
| 33-320 PL-320 3/4" x 20C Rule | 16.95 | 7.95 |
| 33-425 PL-425 1" x 25" Rule   | 18.95 | 8.95 |
| 33-430 PL-430 1" x 30" Rule   | 20.95 | 9.95 |

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AMERICA'S LOWEST PRICED TOOLS  
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## SUPER CORDLESS SPECIALS from BLACK & DECKER

| Model                            | List | Sale |
|----------------------------------|------|------|
| 1930 3/8" rev hi speed           | 165  | 110  |
| 1950 3/8" High Torque            | 165  | 110  |
| 5930 Reversible Hammer           | 179  | 120  |
| 1970 3/8" rev hi torq. screwdrvr | 179  | 120  |
| 1980 Rev adj. clutch Scrdnrl     | 179  | 120  |

## BRAND NEW! SUPER SPECIALS from MILWAUKEE

| Model                          | List | Sale |
|--------------------------------|------|------|
| 0214-1 3/8" c/less drive/drill | 189  | 109  |
| 8975 H.D. heat Gun, 11.6A      |      |      |
| Low 570°F — High 1000°F        | 81   | 49   |
| 5920 belt sander 3x24 w/o bag  | 315  | 199  |
| 5925 belt sander 3x24 w/bag    | 315  | 215  |
| 5930 belt sander 4x24 w/o bag  | 326  | 209  |
| 5935 belt sander 4x24 w/bag    | 348  | 214  |

## STATIONARY TOOL SELL-A-THON from MAKITA

| Model                                        | List | Sale |
|----------------------------------------------|------|------|
| 2020 8" Longbed Jointer with elec. brake 12A | 1700 | 850  |
| 2040 15 5/8" Planer 13A                      | 1780 | 1150 |
| 2030 12" Planer-Jointer                      | 1980 | 1350 |
| 2030N 12 1/2" Planer-Jnt w/elec. brake       | 2160 | 1350 |

## RYOBI

|                               |      |      |
|-------------------------------|------|------|
| BS50N 7" Band Saw             | 995  | 585  |
| BS360NR 12" Band Saw          | 1936 | 1150 |
| AR2500 10" Radial Arm Saw     | 536  | 385  |
| AP-125 12 1/2" Planer         | 1680 | 950  |
| AP-115 12 1/2" Planer-Jointer | 2195 | 1245 |

## DEWALT by BLACK & DECKER

|                                   |      |      |
|-----------------------------------|------|------|
| 3436 12" Dewalt Radial Arm Saw    | 1550 | 1240 |
| 7790 12" Contractors Rad. Arm Saw | 1045 | 836  |
| 7749 10" Deluxe Radial Arm Saw    | 606  | 485  |
| 7779 10" Contractors Rad. Arm Saw | 710  | 568  |
| 3486 8" Rip & Crosscut Panel Saw  | 1034 | 827  |

## DELTA

|                                                        |      |      |
|--------------------------------------------------------|------|------|
| 34-621 Contractors Saw w/o motor 9"                    | 551  | 425  |
| 34-710 Super 10" Saw - 1 H.P.                          | 621  | 475  |
| 15-091 15" Floor Model Drill Press                     | 510  | 395  |
| 15-090 15" Bench Model Drill Press                     | 510  | 395  |
| 11-072 32" Radial Drill Press                          | 409  | 330  |
| 12-051 RC33-13" Planer - 2 H.P.                        | 1729 | 1195 |
| 46-140 11" Lathe w/Stand w/o Motor                     | 448  | 350  |
| 33-150 Sawbuck-Frame & Trim Saw                        | 707  | 499  |
| 33-990 Deluxe - 10" Radial Saw                         | 630  | 475  |
| 33-890 12" Rad. Saw w/1 1/2 H.P. Mtr                   | 1422 | 950  |
| 28-283 14" Band Saw comp/ 3 1/4 H.P. Motor & enc. std. | 970  | 670  |
| 28-243 14" Band Saw w/opien steel std less motor       | 621  | 475  |
| 28-560 16" Motorized Band Saw comp. w/stand            | 467  | 349  |

## \* X-TRA SPECIALS \*

MAKITA TOOLS List Sale

|                                                 |     |     |
|-------------------------------------------------|-----|-----|
| 6010DL C/less Drill w/flashlight-charger & case | 174 | 90  |
| DP3720 3/8" drill Rev. 0-1800 rpm               | 98  | 47  |
| 6510LVR 3/8" drill Rev. 0-1500 rpm              | 136 | 67  |
| 6013BR 1 1/2" Drill rev. 6 amp                  | 198 | 100 |
| 5402A 16" Circular Saw-12 amp                   | 518 | 315 |
| 2414 14" Cut Off Saw-13 amp                     | 308 | 169 |
| 3612BR 3 H.P. Plunge Router                     | 318 | 175 |
| 9401 4x24 belt Sander w/bag                     | 268 | 160 |

## BOSCH TOOLS

|                               |     |     |
|-------------------------------|-----|-----|
| 1581VS Top Handle Jig Saw     | 225 | 126 |
| 1582VS Barrel Grip Jig Saw    | 126 | 118 |
| 1604 1 3/4 H.P. Router        | 199 | 118 |
| 1942 Heat Gun 650°-900°       | 99  | 85  |
| 1272 3x24" Belt Sander        | 259 | 159 |
| 1272D 3x24" Belt Sander w/bag | 274 | 169 |
| 1273 4x24" Belt Sander        | 274 | 169 |
| 1273D 4x24" Belt Sander w/bag | 289 | 179 |

## \* NEW LOW PRICES \*

PONY CLAMP FIXTURES

| Model                   | List  | Sale |
|-------------------------|-------|------|
| #50 for 3/4" Black Pipe | 11.23 | 7.15 |
| #52 for 1/2" Black Pipe | 9.36  | 6.10 |

## JORGENSEN HAND SCREWS

| BOSCH TOOLS |                    | List | Sale |
|-------------|--------------------|------|------|
| 1581VS      | Top Handle Jig Saw | 225  | 126  |

# Readers' Information Exchange

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

I am trying to locate a source for an "Ulmia" wire clamp spreader and the wire clamps. I'll reimburse for postage, copying, catalogs, etc. in locating a source.

Don De St. Jeor  
247 N. 50 E.  
Orem, UT 84057

I'm looking for a pair of steel or aluminum 14 in. band saw wheels to replace the plastic wheels on a Boice Crane 14 in. saw. Rockwell wheels will adapt.

Gerald Lehner  
9580 Frost Rd.  
Saginaw, MI 48603

I would like to find a copy of the owner's manual for a 10 in. Shop Master band saw made in Minneapolis,

Minnesota. It takes a 63 in. blade.

I also need a source for tires for the 10 in. wheels. No model number is available.

William H. Harsh  
3716 Braidwood Dr.  
Columbus, OH 43220

I would be grateful for any help in locating a 3 in. chuck to fit a 1/2 in. by 20 thread spindle, and a tool holder for a Craftsman metal lathe, model no. 109-20630.

T. Stanley Smith  
2239 Southland Rd.  
Baltimore, MD 21207

I am interested in finding a source for an elevating screw and nut for a Sears 10 in. tilting arbor saw, model no. 113.27970. The screw and nut are

part nos. 6328 and 38 respectively.

Paul Hatleberg  
2027 Meadow Dr.  
Beloit, WI 53511

I have a Wizard belt sander which uses 4 in. by 21 3/4 in. belts. Can anyone help me locate a source for this size belt in 80, 100, 120 or finer grit?

Andrew D. Harlan  
P.O. Box 1454  
Trout Creek, MT 59874

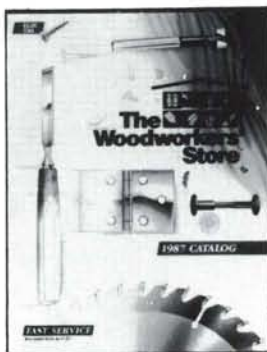
I need a faceplate with 3/4 in. #10 thread to fit my old lathe. Can anyone help out with information where I can obtain one?

Angelo Ruggert  
6917 Blow St.  
St. Louis, MO 63109  
WJ

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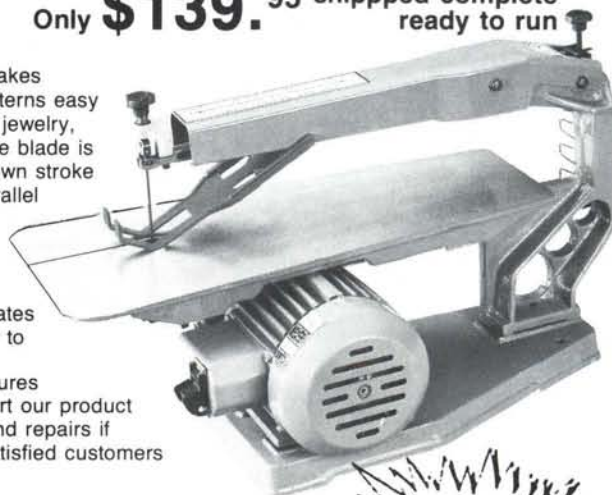
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 Saturday, January 17 - 10am - 6pm  
 Sunday, January 18 - 10am - 5pm

### The Skyline Toronto Hotel

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### THE COLUMBUS, OHIO SHOW

Friday, February 13 - Noon - 6pm  
 Saturday, February 14 - 10am - 6pm  
 Sunday, February 15 - 10am - 5pm

### Veteran's Memorial Hall

300 West Broad St., Columbus, OH

### THE WASHINGTON-BALTIMORE SHOW

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 Saturday, February 28 - 10am - 6pm  
 Sunday, March 1 - 10am - 5pm

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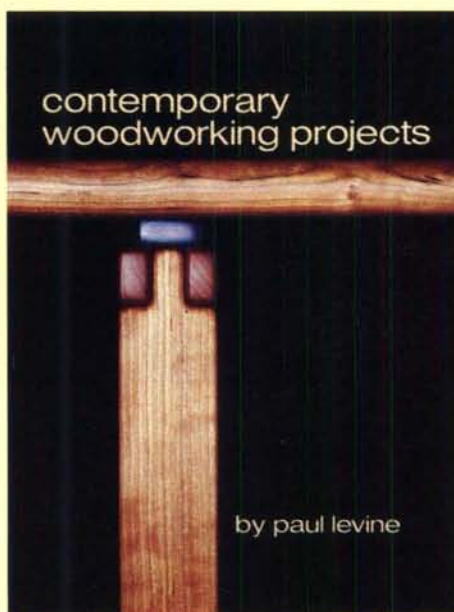
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by paul levine

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# Events

*We will be glad to list as many events of interest to woodworkers as space permits. Listings are free and may include shows, fairs, competitions, workshops and demonstrations. The issue closing date is the 1st of the 2nd month preceding the cover date (1/1 for March/April; 3/1 for May/June, etc.). Please address announcements to the Events Department.*

## New England:

The Winter class schedule for the Brookfield Craft Center is available by writing to the Center at P.O. Box 122, Brookfield, CT 06804.

Application deadline for the 30th Annual Guilford Handcrafts Expo is Feb. 21. The national juried craft exhibition will be held from July 16 - 18. For applications, write to: 30th Annual Guilford Handcrafts Expo, P.O. Box 221, Guilford, CT 06437.

## East North Central

Woodworking World — The Columbus Show, Feb. 13 - 15, Veteran's Memorial Hall, Columbus, Ohio.

## South Atlantic:

American Craft Enterprises, Inc. will be sponsoring their annual ACC Craft Fair Feb. 18 - 22 in Baltimore, MD. The first two days will be open to wholesale buyers only and the last three to retail buyers. For further information, contact: American Craft Enterprises, P.O. Box 10, New Paltz, NY 12561. (914) 266-0039.

Woodworking World — The Washington, DC Show, Feb. 27 - Mar. 1, Sheraton Hotel and Exhibition Center, New Carrollton, Maryland.

## East South Central:

The Arrowmont School of Arts and Crafts will be sponsoring a workshop in Bowl and Plate Turning, Mar. 9 - 13; Creative Woodturning, Mar. 16 - 20; Practical Woodturning, Mar. 23 - 27. For information, write to the school at P.O. Box 567, Gatlinburg, TN 37738, or call (615) 436-5860.

The National Working with Wood Show, Feb. 20 - 22, Commonwealth Convention Center, Louisville, KY.

## West South Central:

25th Anniversary Exhibition of the Louisiana Crafts Council, Jan. 10 - Feb. 26, Southdown Plantation/Terrebonne Museum, Houma, LA. For information, call Sheri Watkins at (504) 868-4926.

The 13th Annual Workshops/Conference sponsored by the Louisiana Crafts Council and the American Crafts Council Southeast Regional Assembly will be held at the Louisiana State University Art Department, Baton Rouge, Jan. 30 - Feb. 1. For information, contact Lynn Katz, 450 W. Bennett Rd., Independence, LA 70443.

Applications and slides for "Vessels and Forms", a juried exhibition of lathe-turned wooden pieces sponsored by the Houston Festival, are due by Jan. 9th. For information and applications, contact: Peter J. Hutchinson, Curator, Vessels and Forms Exhibit, 13818 St. Mary's Lane, Houston, TX 77079.

## Mountain:

The Colorado Woodworking Show, Feb. 13 - 15, National Western Complex, Denver, CO.

## Pacific:

The Southern California Woodworking Show, Jan. 30 - Feb. 1, Long Beach Convention Center, Long Beach, CA.

The National Working with Wood Show, Feb. 28 - Mar. 1, Pasadena Civic Center, Pasadena, CA.

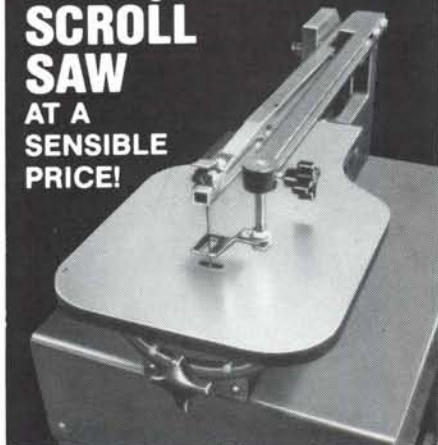
Woodworking World — The Hawaii Do-It-Yourself Show, Jan. 30 - Feb. 1, Blaisdell Center, Honolulu, Hawaii.

## Canada:

Woodworking World — The Toronto Show, Jan. 16 - 18, Skyline Hotel, Rexdale, Ontario.

Wwj

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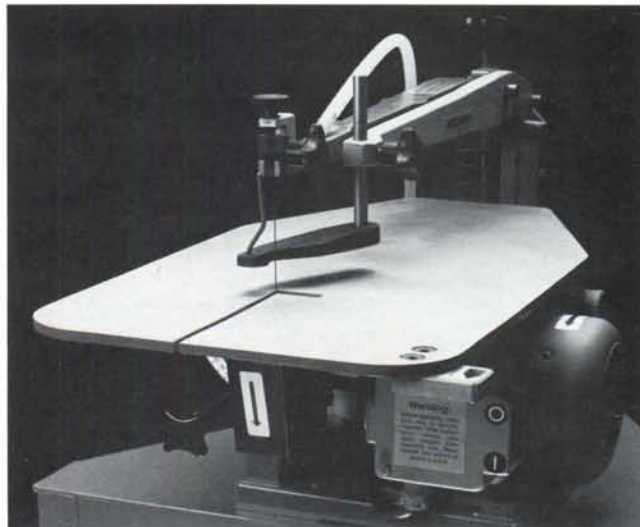
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# Workshop Income

## Direct Mail Promotions — Defining the Market for Your Work

As we have often noted, unless you are fortunate enough to have a ready-made market for your product, promotion is the key to selling your work. In previous Workshop Income features we've examined classified advertising, craft fairs, craft shops, and various other possibilities for both wholesale and retail sales. However, one of the most effective methods of marketing your work, through direct mail printed promotions, is usually not considered a viable alternative. Most people have had little exposure to or knowledge of either printing or direct mail. Coincidentally, there are misconceptions of the cost and problems involved in such simple promotions.

Direct mail has long been recognized as one of the most effective sales vehicles. Whether it is a nationwide promotion that you and millions of others receive, or only a limited local effort, the effect is the same. You go to your mailbox, you open the mail and chances are you'll at least glance briefly at the contents of a promotion, no matter how mundane. If someone in town is handcrafting pink widgets you will probably read his promotion, even if the last thing you need is another pink widget. The advertisement or promotion has reached you, the first and most important part of the sale.

While the actual rate of return on nationwide or even regional mailings is usually very small, local efforts can be highly effective. As a local toymaker, you may schedule a November or early December mailing announcing a pre-Christmas sale on toy cars, trucks, hobby-horses, etc. If you don't have a store or other network for selling and distributing your product, a neighborhood mailing is a way to sell at or near full retail to a great many potential consumers in your immediate area. On a somewhat larger scale, if you are a maker of reproduction Colonial or Early American furniture, for example, you may target a promotional mailing to homeowners most likely to have an interest in traditional furniture. On an even larger scale, you may direct a nationwide mailing to individuals who subscribe to magazines about Colonial homes. Various list services can provide specialized lists, broken down regionally or even by zip codes, that will enable you to reach the particular segment of the population that has a common interest in the type or style of articles you make, and would therefore be most likely to purchase your product.

There are a number of things you can do to maximize the effect of your promotion. Offer as many different products as possible, with various price ranges, including some for under \$10. The more things you offer, the greater the likelihood that the readers of the promotion will find something they like. Interestingly, most woodworkers/craftsmen report that small items priced under \$10 are their best sellers.

There is no need to spend a great deal of money on an ex-

pensive, 4-color, glossy promotion to test the appeal of your product. A simple photocopied or mimeographed, folded-once-over, black-and-white mailing can cost less than 25¢ each, including postage. As a test, try mailing to just 100 homes. Here again, specifically targeting likely buyers will increase your chances of success.

For example, let's say that our woodworker making rustic Colonial/Early American furniture and accessories lives in a small city, population 20,000. In addition to a downtown residential district, there are apartments, condominiums, low income housing projects, elderly housing, and trailer parks. The outlying suburban areas include 1950's developments, tract housing, older established neighborhoods, contemporary developments, new neighborhoods, and a wealthy "executive" section. Rather than choosing his list of 100 names randomly from the telephone book, our woodworker can effectively target those individuals who would most likely be interested in his work. He could eliminate the apartment, low income, elderly, downtown residential and trailer park areas. Although older developments and 1950's tract homeowners might have some interest, research has shown that most buying of furniture occurs in the first year following the purchase of a home. Our woodworker can safely assume that contemporary homeowners would have little inclination to purchase Colonial or Early American style pieces, and although wealthy executives certainly have the means, our woodworker might decide that their tastes probably tend more toward the classic styles of Chippendale, Empire, Queen Anne etc, rather than toward his rustic looking work. Therefore, he would best

*With the right combination of product and marketing . . . a \$25 investment in paper, copying, and stamps may well translate into several thousand dollars in sales.*

direct his mailing to new homeowners or homeowners in newly developed neighborhoods. An excellent source for coming up with a list of such names would be the property transfer listings, which are published regularly in the newspaper or are available in town records.

Obviously, selling your work is the hardest part of operating a small woodworking business. More than anything else, marketing requires good common sense and creativity. As you can see from the example of the Colonial/Early American furniture maker, considerable thought and some serious research may be needed to best identify your sales prospects.

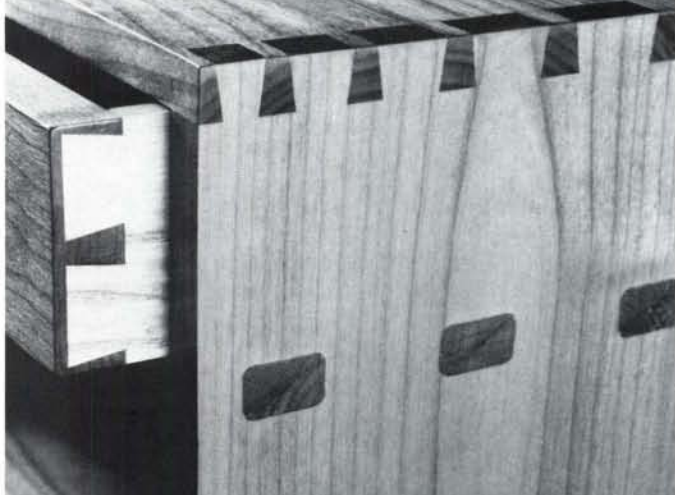
With the right combination of product and marketing, a \$25 investment in paper, copying, and stamps may well translate into several thousand dollars in sales. With such small risk versus the possibility of substantial return, many woodworkers and other craftspeople have used promotions and direct mail to start successful small business enterprises.

Wwj

*Next issue: How to Create a Direct Mail Promotion*

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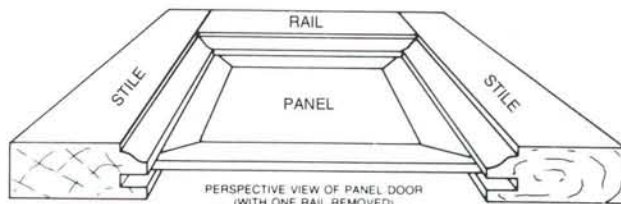
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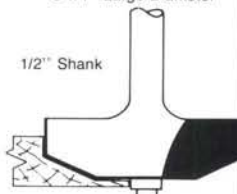
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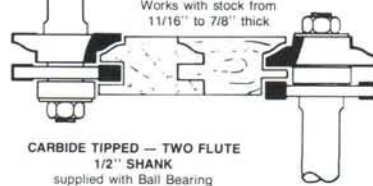


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# Restoring Antiques

## Old Wood

by John W. Olson

Usable old wood can be a valuable commodity, especially if you enjoy building antique reproductions and are a stickler for authenticity. There are various ways to antique a new piece of wood, yet none are as effective as a couple of hundred years of wear and tear.

Wood ages with the years and not only takes on a patina, but also suffers external and internal changes. The natural oils dry out so that old wood is more porous than new. Also, the surface slowly oxidizes, a process that occurs more rapidly on unfinished surfaces than on finished ones. All finishes are permeable to a greater or lesser degree. The oxidized surface takes on a slightly deeper color and is often softer than the interior.

Antique wood is more brittle, especially in the environment of the modern tight dwelling that has central air conditioning and heating. When cut, most species of wood give off a definite characteristic odor. An old piece and a new piece of the same species can be distinguished by this characteristic alone. The older wood has a drier and often more pungent odor. After cutting several different species and making the comparison of old and new wood, this test becomes quite obvious.

How old is old wood? Something over 50 years is a good guess, but there are several factors which enter into the equation. The most important one is how much has the wood been exposed to the weather? Wood left out in the weather ages more rapidly than that which has spent most of its cut life in a sheltered environment. Our friend George Grotz tells the story of an old duffer up in Vermont who made his living faking 200 year old chairs. Apparently his craftsmanship was such that he could have done just as well selling authentic reproductions. However, he wasn't satisfied with this, so to reproduce some of the internal changes found in antique wood, this fellow buried his chair parts in a mucky swamp for a couple of years. The interior grain of the wood became stained with the dark streaks often found in the interior of the members of a piece of antique furniture.

Finding old wood can be a challenge. Antique shops often have pieces of furniture that have been damaged or are in such a state of decrepitude that the dealer doesn't feel he can repair them and sell them at a profit. You can often buy these pieces for little or nothing. I have acquired some just for hauling them away.

Another source is old buildings and building supply yards that stock secondhand material. Nearly all metropolitan areas have at least one of these yards, especially now that restoration of old houses has become a growing interest. You can find all sorts of house parts in these places and since many of our older houses were built using hardwoods, you may be able to find just what you need. Don't pass up an old house or building that is being torn down. When I worked in Washington, D.C., and lived in nearby Maryland, my backyard became a treasure chest of this sort of demolition material, all gleaned from urban renewal projects in the southeastern part of the D.C. metropolitan area. It took me three weeks to clean and sell my collection of these materials when we moved to Florida.

Keep your eyes open as you drive through a neighborhood where old furniture and trash are piled along the curb to be hauled away. There is no telling what you might find. When driving through the country keep a lookout for old barns and sheds that might be sources of old wood. Some of these structures were built of chestnut, oak, walnut, ash and other hardwoods. Seasoning in open air for 50 or more years yields really fine furniture woods when this stock is recut, planed and then allowed to season for a few months. I once acquired three 18 ft. long by 18 in. wide by 14 in. thick walnut beams. These timbers were floor beams in an old tumbledown building in rural Maryland that contained a hand operated press to pack tobacco in hogsheads. The iron parts were still there under the tumbledown building.

When cutting this type of material with power tools, great caution must be used as all sorts of metal fasteners might be embedded in them. Most sawmills won't touch these timbers as they don't want to risk damaging their saw blades. Your only option therefore is to mill old stock such as this yourself.

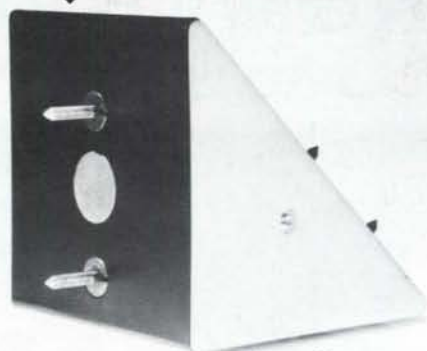
Carefully inspect the material first for evidence of old nails, spikes, pins, screws, etc. Very often a nail or other fastener may have rusted or been broken away, leaving only that part which is embedded in the wood. A close inspection will usually reveal a small rust-stained area, enabling you to identify and remove the remaining piece. Since jointer planer knives and other cutters are very expensive to replace, every reasonable method is warranted in the effort to locate such hidden hardware and fasteners. One trick is to "sweep" the stock thoroughly with a magnetic stud finder. Although the indicator needle will not respond to the non-ferrous metals, most old fasteners were iron and this system is very nearly foolproof. The stud finder is also recommended for locating screws or fasteners that may be embedded in old furniture parts that require machining.

One method for turning old structural timbers into usable stock is to utilize a chainsaw to rough cut board lumber. After checking for and removing all old hardware, use the chainsaw in conjunction with either a shopmade or commercial guide bar to rough cut the boards. Flatten one side on the jointer, and then feed the boards through a thickness planer to get the finished stock. Boards cut from old timbers should be stacked, stickered, and allowed to acclimate to the ambient environmental conditions for several months before they are used.

Old wood is a valuable source of stock both for antique reproduction work and for repairing antiques. Since it is very difficult and often impossible to perfectly match the surface texture and color of new wood for use as a replacement part in an antique, finding similar old material may be the only viable option. To be sure, finding and working with old wood is no simple task. The adventure in the discovery and the challenge in its successful application, though, are most satisfying rewards, making the endeavor well worth the effort.

W&J

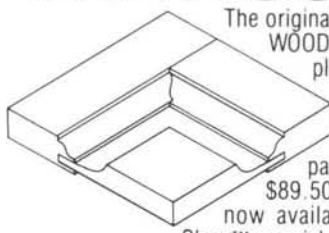
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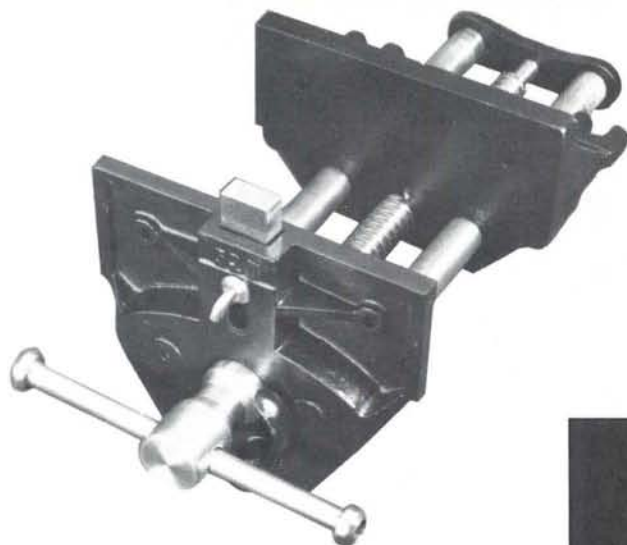


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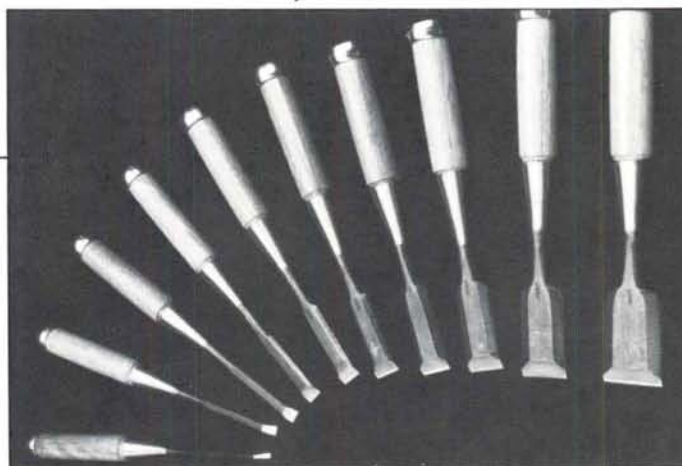
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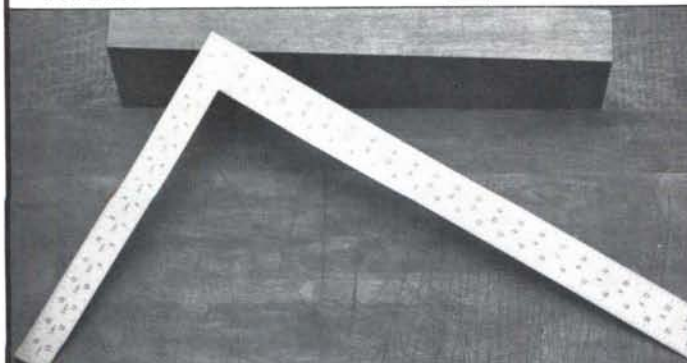
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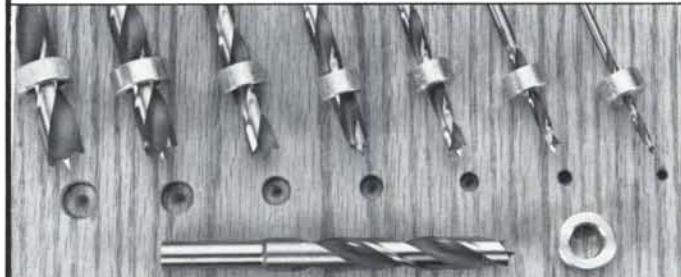
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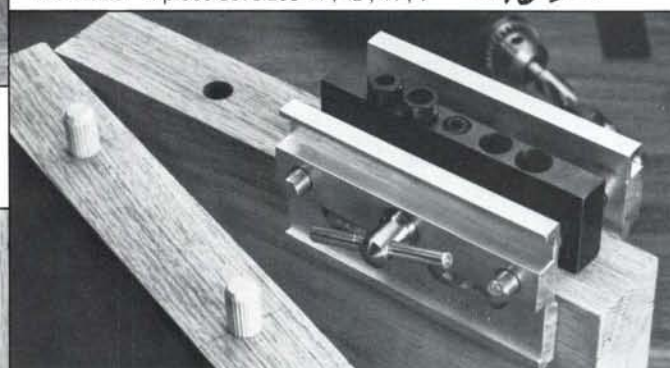
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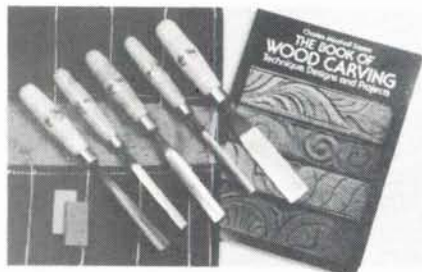
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# Woodworking Basics

## The Mortise and Tenon, Part I

As long time readers will note, The Beginning Woodworker has been renamed Woodworking Basics. The new title does not reflect a significant change in the direction or content of this feature; rather, it is our response to the realization that this column can be helpful to everyone, not just those starting out. Many times, experienced woodworkers have written in to let us know that a particular article has taught them new or better methods for various operations or perhaps explained the how or why of something that they never really fully understood. If there is any difference at all in the column, it will be to expand the horizon, making it a resource that even the most skilled craftsmen will find valuable as a reference.

There is no more basic element to woodworking than joinery, and no more basic joint than the mortise and tenon. Although no one knows for certain when the mortise and tenon was developed, or for that matter when woodworking was first recognized as a specialized skill, we do know that by 2000 B.C. the art and craft of woodworking was well established and highly sophisticated. Furniture from the tomb of the Egyptian boy king, Tutankhamen, displayed complex design elements found on fine furniture today and made use of several types of mortise and tenon joints.

Very generally, the mortise and tenon joint is a round, square, or rectangular tenon fitted into a matching slot or mortise. Although there are many different types of mortise and tenon joints, the primary purpose of the joint is to connect separate pieces of wood, usually at right angles. The well-fitted mortise and tenon provides a neat joint that can withstand considerable stress and load from all directions.

There are three basic groups of mortise and tenon joints. The first group, the open or bridle joint (Fig. 1A), is the simplest to make. As shown, pins can be added for extra mechanical strength. The second group, the through tenon (Fig. 1B), may be pin-

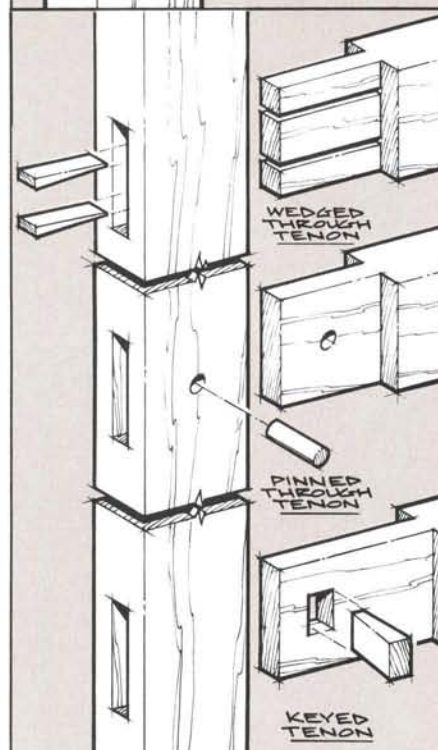
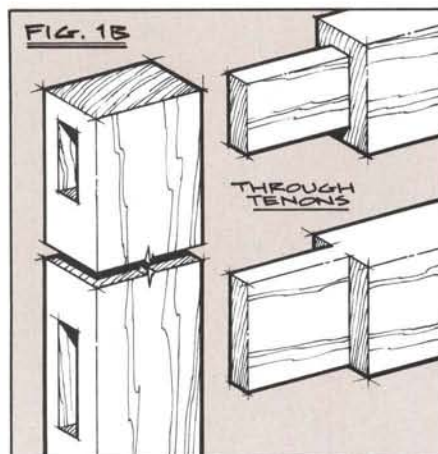
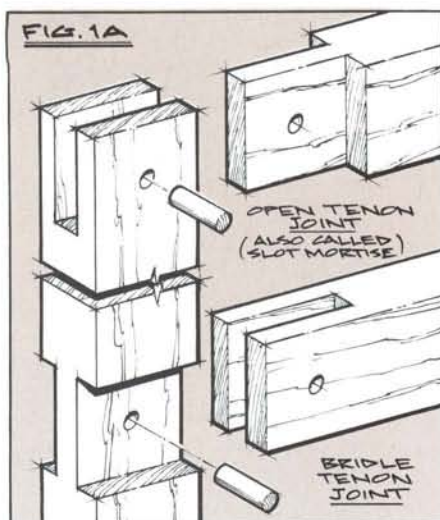
ned, wedged, or keyed for added strength. The third group, the blind tenon (Fig. 1C), is the most frequently used joint in woodworking. It, too, may be pinned or wedged for added strength.

Open or bridle joints (also called slip joints) were once used mainly on frames and other areas that are hidden from view. However, where exposed joinery was previously considered undesirable, contemporary, and especially Scandinavian style furnishings proudly display open or bridle joinery as an important element of the design. Of course, in order to be attractive, the joint must be well executed and carefully fitted. The through mortise and tenon is another pleasing-to-look-at exposed joint, particularly when wedged. Versions of this joint, with a "keyed" tenon extending beyond the mortise (also called a tusk tenon), were common on Colonial and Early American style tables.

The blind mortise and tenon is the obvious choice in frame and panel, carcase, and any other construction where the joinery must be concealed. In joining a stile to a rail, a stretcher to a leg, and a host of other applications, the blind mortise and tenon provides maximum strength with minimum visibility.

Although we have included the round tenon in our illustrations, the round tenon suffers from the same weaknesses as the common dowel joint — lack of effective gluing surfaces. As illustrated in Fig. 2A, the only truly effective glue area is a small long-grain section on either side of the round tenon. All other glue areas are to some extent end-grain situations. For this reason we do not generally recommend the use of either round mortise and tenon or dowel construction in situations where a standard mortise and tenon would provide a much stronger connection.

With due respect to the many readers who regularly use dowel joints and round tenons, a little closer look at the relationship of glue strength to grain configuration is in order at this



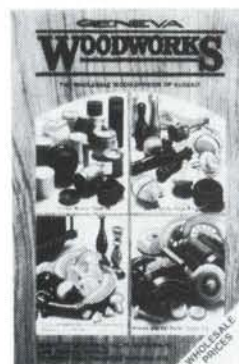
point. Dowels and round tenons do provide glue surfaces that vary from end grain to long grain as one follows the diameter of the dowel or round tenon around its circumference. And we do acknowledge that even in plain end grain there is some glue strength, with that strength increasing progressively as the percentage of end grain decreases. You may construct a project with dowels and have it look every bit as good and last every bit as long as the same project constructed with tenons. One might even argue that a well-fitted dowel joint is superior to a sloppy mortise and tenon; it is. However, our philosophy at *The Woodworker's Journal* has been to offer what we know to be the best possible construction, all else being equal. The general rule of thumb is that square tenons are superior to dowels or round tenons. One need only be familiar with antiques and old fur-

niture to bear witness to this fact. While they may be fine for five, ten, twenty or even thirty years, over longer periods of time, subjected to temperature and humidity extremes as furniture often is, dowel joints seem to have a very high rate of failure. Every project you build may not be destined

(continued on next page)

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## Woodworking Basics Continued

to become an heirloom, but we like to think it could be and therefore want to present the best joinery possible. We know that many readers will substitute dowels for the mortise and tenon, but we sleep a little better at night knowing that we've offered the best, strongest and most durable joint. 'Nuf said.

There are a great variety of unusual or special purpose mortise and tenon joints, including some pretty exotic Oriental varieties, which we will feature in a future issue. Various other types of mortise and tenons such as the haunched tenon (2B) which is commonly used with frame and panel construction, and the barefaced tenon (2C) where the tenon is shouldered on only two sides, also have specialized uses. For purpose of explanation and illustration, this discussion will focus on the basic, simple mortise and tenon.

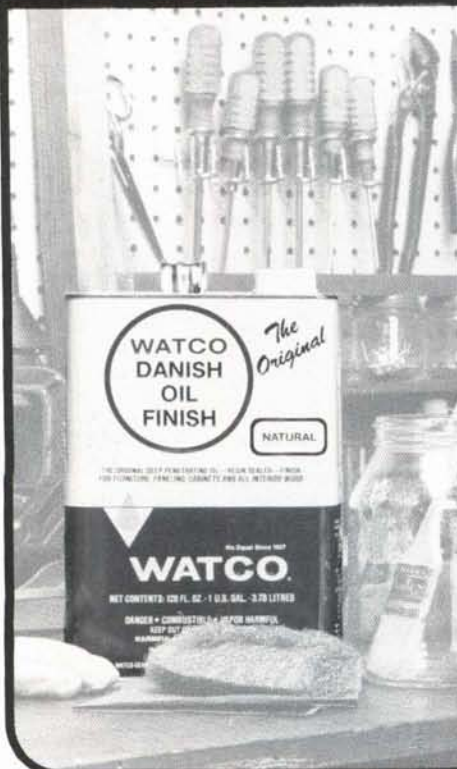
The purpose of the well-designed mortise and tenon is two-fold: to allow maximum gluing surface and to provide maximum mechanical strength. The tenon cheeks provide the gluing surface, while the fit of the tenon and the shoulders provide the mechanical strength. As noted earlier, various devices, such as pins, wedges, and keys can also be utilized to increase the mechanical strength of the joint.

In dealing with the subject of woodworking on a daily basis, and in writing these articles, it is easy to presume a general knowledge of woodworking terminology on the part of all the readers. However, even veteran woodworkers are sometimes unfamiliar with the proper names or designation of various elements. To insure that we are all talking about the same things, Fig. 3 clearly illustrates common mortise and tenon terminology.

Take note that the length, width, and thickness of the tenon and mortise do not refer to the same measurements on both components. As you might imagine, this situation could lead to some confusion in any discussion of the mortise and tenon. To avoid this potential problem, remember these three equations: the tenon thickness is equal to the mortise width, the tenon width is equal to the mortise length, and the tenon length is equal to the mortise depth.

The design of the mortise and tenon must carefully balance the two main

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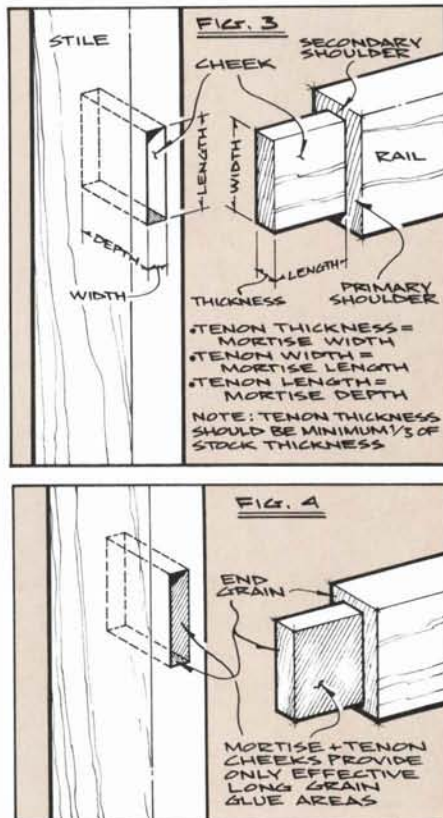
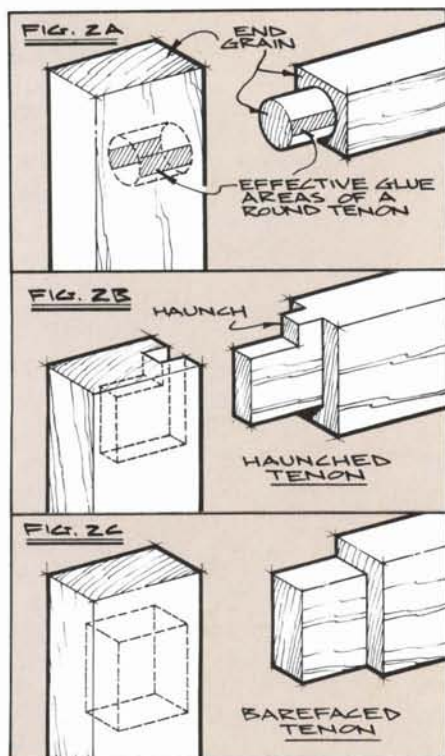
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criteria: glue strength and mechanical strength. While some specialized mortise and tenon designs may deviate from the norm, the basic rule of thumb is that the width of the mortise, and correspondingly the thickness of the tenon, should be at least one-third the thickness of the stock. Although this relationship may be altered to accommodate different applications, remember that any increase in the thickness of the tenon will decrease the thickness of the mortise cheeks.

In addition to providing mechanical strength, the great advantage of the mortise and tenon over a simple butt joint is the provision of an effective long grain glue surface. As illustrated in Fig. 4, except for the mortise and tenon cheeks, all other surfaces of the joint will be end grain-to-long grain. Since end grain joints have little strength, the ideal mortise and tenon layout should result in the greatest long grain-to-long grain cheek area.

Both the mechanical strength and the glue strength of the typical mortise and tenon joint are to a large degree dependent on the fit of the joint. The primary shoulders, which provide mechanical strength against racking, the secondary shoulders, which provide resistance to up-and-down

stresses, and the cheeks, which provide the glue surface, are all dependent on a good close fit for strength.

In order to achieve a tight fit, the mortise and tenon must be laid out, marked, and machined accurately. Remember, not only the strength of the joint, but correspondingly the strength and rigidity of the piece itself, will be directly related to how carefully the mortise and tenon are fitted. A sloppy joint will have little mechanical or glue strength, and will probably look bad to boot!

Reduced to simplest terms, the mortise and tenon are two distinct parts that are made separately and yet must fit together perfectly. Every woodworker has his own favorite method, and although there is some disagreement as to the order (kind of like the chicken and the egg), it is our opinion that the mortise should be cut first, with the tenon then made to fit the mortise. Generally, it is easier to pare down the tenon to fit the mortise than to expand the mortise to accommodate the tenon. Next issue, we'll present both hand and machine step-by-step methods for cutting the common mortise and tenon joint. **WwJ**

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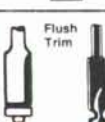
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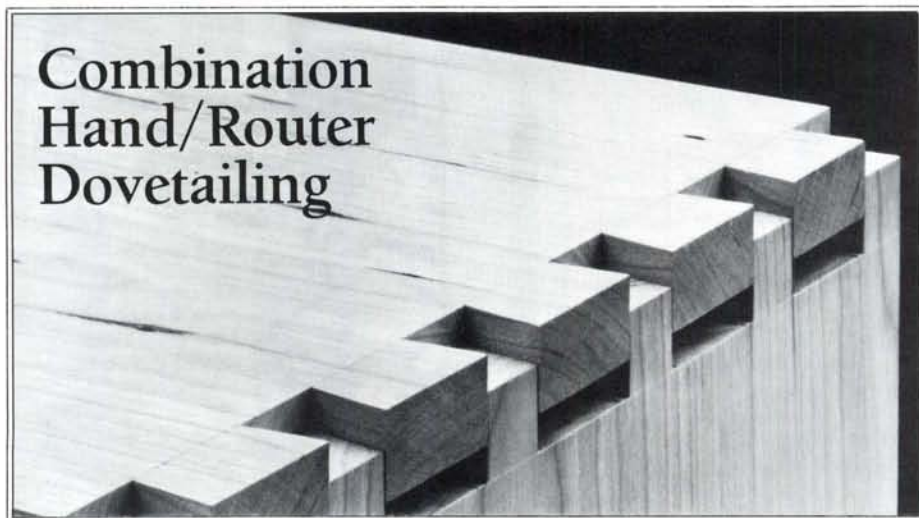
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# Special Techniques

## Combination Hand/Router Dovetailing



**D**ovetails are without question one of the strongest and best looking of the many different woodworking joints. The beauty and interest of well-fitted dovetail construction is an element often associated with the finest furniture, and expertise in cutting dovetails was once considered the measure of a master craftsman.

Fundamentally, there are two methods of cutting dovetails: by hand, using a backsaw and chisel, or by machine, using a router, dovetail bit, and jig. The hand method is time-consuming and demands considerable skill, while the machine method requires either a shop-made or commercial (usually expensive) jig.

No matter how it is crafted, the strength and appearance of the assembled dovetail joint will depend on the accuracy with which the tails and pins are cut or machined. If you haven't been chopping out dovetails since "day one", and don't have a fancy jig in your shop, this combined router and hand method offers a reliable, effective means of cutting dovetails of any size and spacing in stock of any width. You need only follow the step-by-step instructions and work carefully.

You will need the router, router table, a straight bit, and a dovetail bit. Although a 1/2 in. cutting length (12mm) dovetail bit is fine for cutting through dovetails in stock less than 1/2 in. thick, for stock from 1/2 in. to 3/4 in. thick you will need a larger 3/4 in. (21mm) bit, and a 1/2 in. collet router to accept the larger shank on the 21mm

bit. When buying router bits, select carbide for longer life and better overall value.

Hand cutting dovetails involves three basic steps: laying out, cutting the tails, and cutting the pins. The superior consistency and accuracy this particular technique affords are due primarily to the use of the router for, one, machining the tails and, two, achieving a uniform depth when cutting away the waste area between the pins.

**Step 1:** Design the dovetail layout. Although we show evenly spaced tails, wider or oddly spaced tails are also possible and can often contribute to the visual impact of an exposed dovetail joint. Set the dovetail bit at a height equal to the thickness of the pin stock and use the fixture shown in Fig. 1 to support the stock. Note the use of a backup board to minimize tearing and chip out. Adjust the fence as necessary for each cut. When more than one pass is needed to clean out between tails, note bit rotation and plan cuts to avoid the dovetail bit pulling stock uncontrollably into the cutter. **Tip:** Use a paper or cardboard pin template to speed dovetail layout.

**Step 2:** Use the tail piece as a pattern for laying out the pins. Hash marks denote the waste area (Fig. 2).

**Step 3:** Cut a guide block as shown to act as a guide for the dovetail saw. Use the table saw and cut the block to the same angle as the dovetail bit. By making distance "A" equal to the difference between the dovetail saw blade

(continued on page 25)

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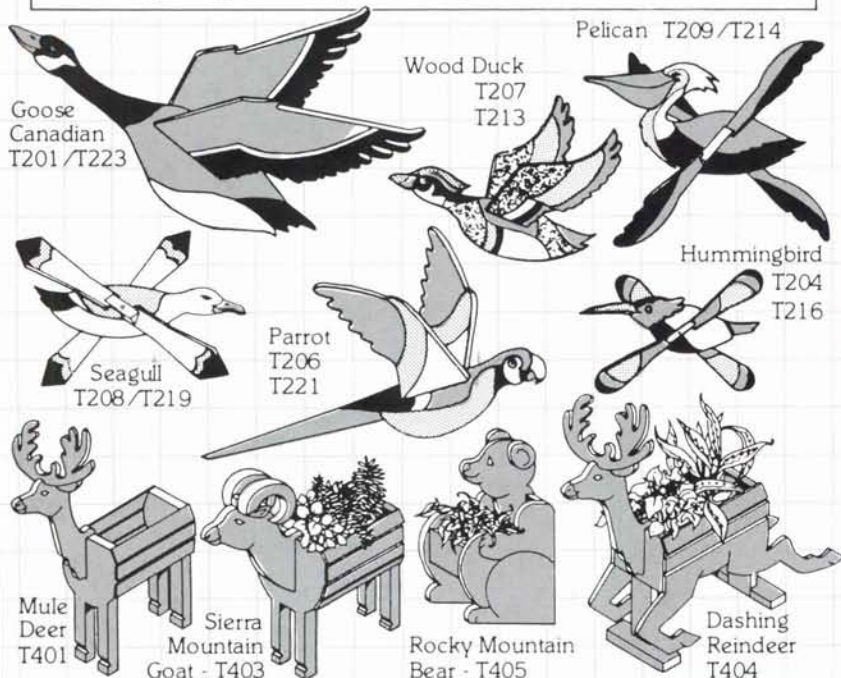
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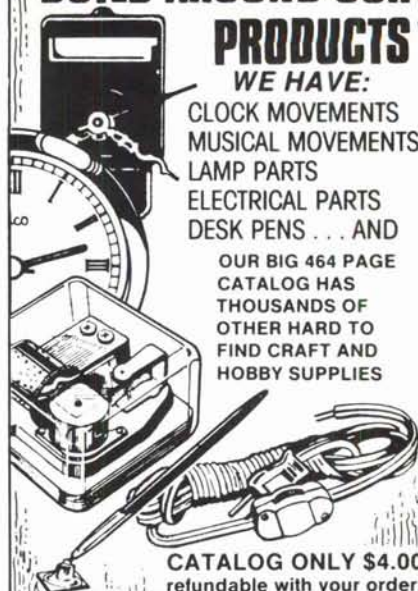


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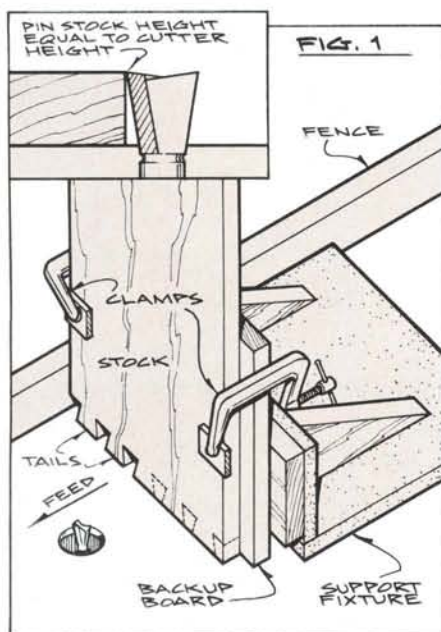
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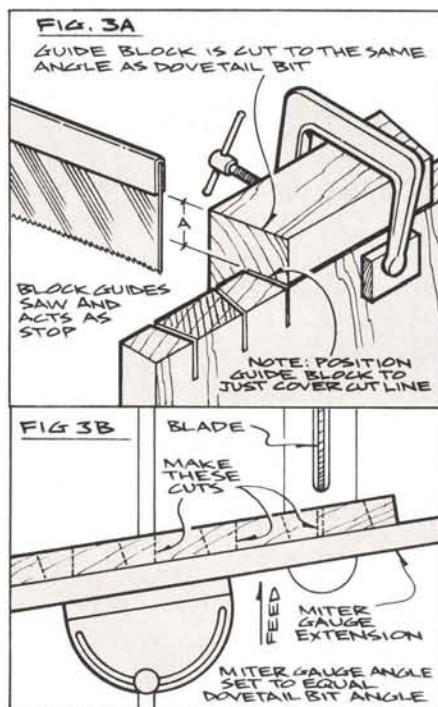
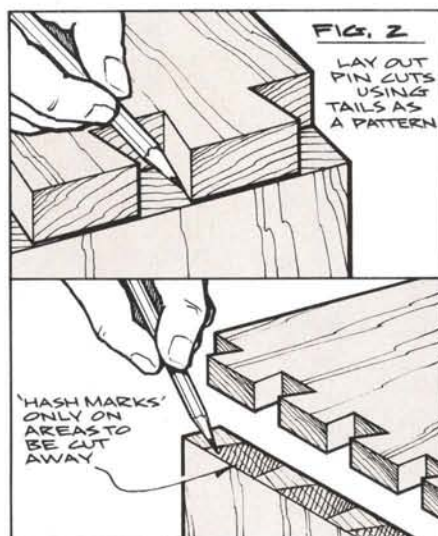
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## Special Techniques Continued



width (tooth to spine) and the tail stock thickness, the guide block can also act as a depth stop indicator. Clamp the block so it just covers the pin layout line (Fig. 3), then carefully make the pin cuts. *Tip:* Although making the guide block so that it doubles as a stop indicator is handy, whether you use this method or prefer layout lines to guide your saw cut depth, it is best to stop the pin kerfs about  $\frac{1}{8}$  in. short of their full depth. Kerfs that are cut too deep will result in a sloppy looking dovetail joint. The router will establish the actual depth in the next step, and any remaining stock is easily cleaned out by hand.

*Note:* An alternate method to using the dovetail saw for the pin cuts is to use the table saw. You will need to carefully mark for the cuts and identify the waste side of the lines with an X or other indication. Set the miter gauge to the same angle as the dovetail bit, scribe a test line at the same angle on some scrap stock, and make a practice cut to insure that the miter gauge setting is indeed accurate. After raising the blade height to the tail stock thickness make all the cuts with the same miter gauge setting on one side of the pins (Fig. 3B). Start each cut by slightly nicking into the waste area, then slide the workpiece over so that the blade just kisses the line before passing the stock through. Move the miter gauge to the opposite slot,



reverse the miter gauge alignment, once again make a test cut to insure proper setting, and then make the remaining pin cuts following the same procedure of nicking the waste area and adjusting the workpiece to kiss the pin mark line before passing the stock through. Using a rip blade, which will have square ground teeth, will eliminate any need for flattening the bottom of the waste cut later on. The dovetail joint must fit tight in order to look good, and using the table saw to establish the pins will eliminate any ir-

(continued on page 27)

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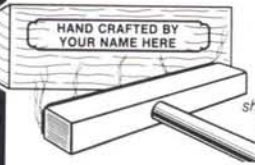
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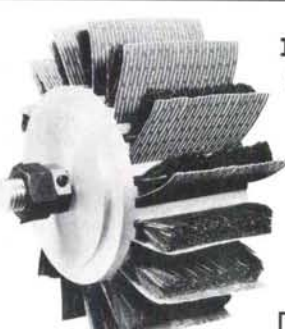
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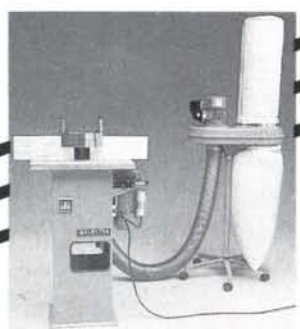
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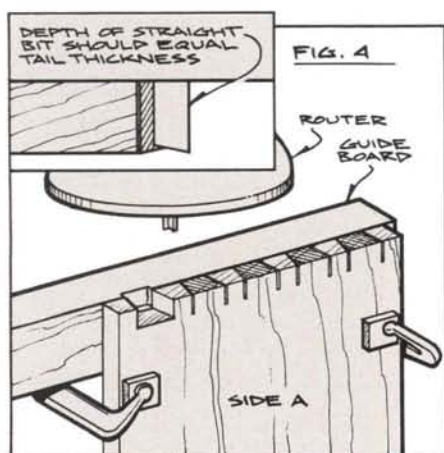
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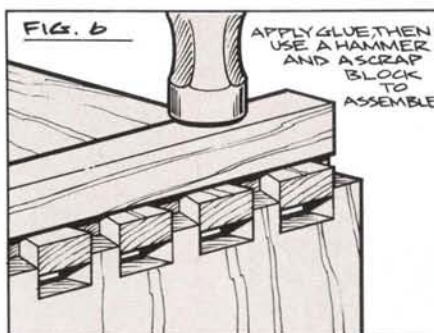
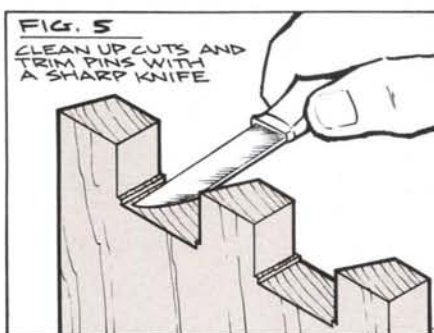
## Special Techniques Continued



regularities that might result from inexperience or unfamiliarity with the dovetail saw.

**Step 4:** After all the pin cuts have been made, clamp the pin stock up with a guide board as shown in Fig. 4 for added router support. Chuck a straight cutter in the router and set the bit depth so it is exactly equal to the tail stock thickness. Then clean out the waste between the kerfs. Select as large a straight cutter as possible, since a large cutter will result in less chatter, affording greater accuracy. By carefully controlling the router you should have little trouble removing all the waste material; however, if you prefer, you can stay just inside the kerfs and then clean the remaining stock by hand. Use a sharp knife or a chisel to clean up the joint and square the corners, as shown in Fig. 5.

Note that Fig. 4 shows the pin stock oriented so the narrow end of the waste area is facing the backup board. This orientation is important for several reasons. First, entering the router cuts at the wide mouth (facing out) is easier, and second, following this procedure results in a crisp, clean edge where it is most important. Since side A is the outside or visible surface of the dovetail joint, neat clean cuts are especially vital here. Given the fact that some minor chip out at the lower edge of the waste cut between the pins (on the side the router bit exits) is inevitable, even though the work is backed up, having this chip out limited to the inside surface least compromises the finished appearance of the joint. Tear out or chipping at the bottom edge of the wide mouth could most certainly result in a sloppy, ragged look-



ing joint.

**Step 5:** Test fit the mating pieces. The joint should be tight, but must not require great force to assemble. The sharp knife or chisel can be used to pare or trim the pins as needed to ease the assembly, though anything more than fine adjustments are usually not needed with this technique. Apply glue and use a scrap block as shown to final assemble the joint (Fig. 6). Although clamping is not normally required with a well fitted dovetail joint, there is certainly no harm in using clamps to close up or tighten a joint that has not fully seated.

This combined router/hand dovetail method can be used in any project where the tail spacing is wide enough to accommodate the dovetail bit. Since the pins are marked and cut using the tail piece as a template, absolute accuracy in the location of the tail cuts is not necessary. Indeed, by creatively sizing the dovetails and varying the tail spacing slightly, this technique can be used to reproduce the desirable hand-cut dovetail look.

Given the facts that adjustable commercial jigs are expensive and that traditional hand-cut dovetails can be a challenge for even the most experienced craftsmen, this quick and surprisingly accurate router/hand technique should prove to be a most welcome alternative.

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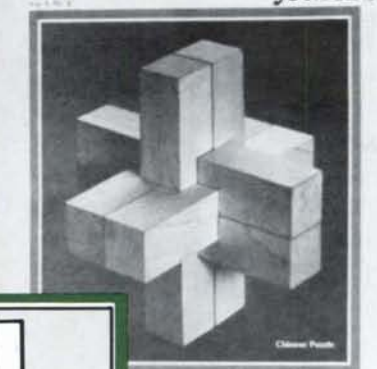
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Folding Snack Table • Early American Wall Unit • Oak Pedestal Table  
Corner Cupboard • Drafting Table • Mirror with Shelf • Leather Opener

# SPECIAL SECTION

# BACK ISSUE INDEX

Sept/Oct 1980  
Through  
Nov/Dec 1986

# The Woodworker's Journal



Included in This Issue: Pierced Tin Cabinet • Early American  
Blanket Chest • Three Latticework Projects • Hutch Clock  
Oak File Cabinet • Mahogany Tripod Table • Pine Footstool

This index to *The Woodworker's Journal* includes all projects and articles from September/October 1980 through November/December 1986. All issues prior to September 1980 are in newsprint and are no longer available for sale.

Projects are listed alphabetically within categories, with some listed more than once where appropriate. Titles of regular departmental articles in each issue are listed alphabetically by main topic under the department heading.

The format for each entry is the project title followed by the volume number (year) and issue number (month). The table below will be helpful in determining the month and year of an issue.

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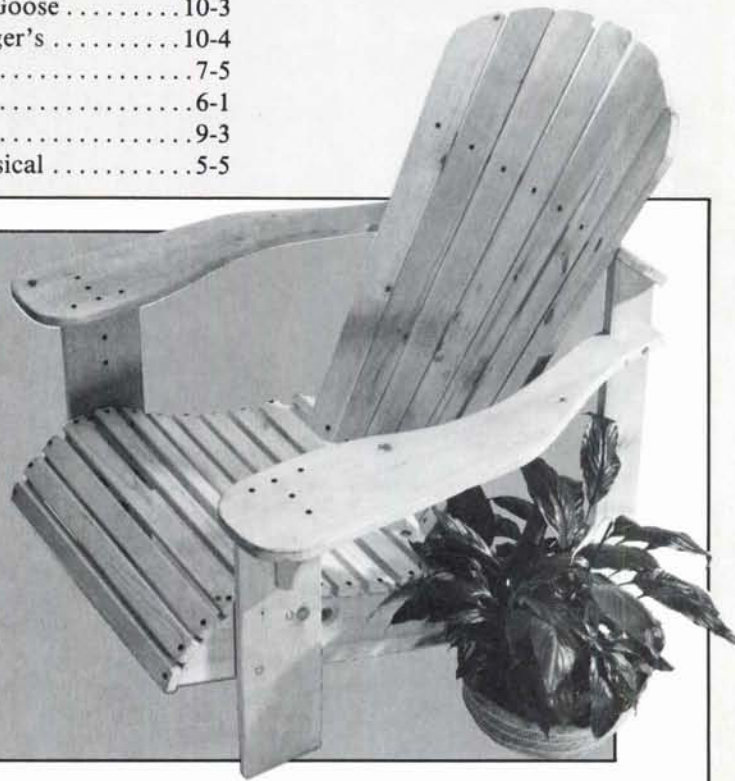


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Mar/Apr '85

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| Kitchen Clock, 19th Century ..... | 8-1  |
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| Lyre Clock .....                  | 6-6  |
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| Shelf Clock, Connecticut .....    | 10-2 |
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| Tall Clock, Early American .....  | 9-6  |
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| Buffet, Contemporary .....                         | 5-3  |
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| Cabinet, Cutlery, Wall-hung .....                  | 9-5  |
| Cabinet, Display, Wall-hung .....                  | 10-4 |
| Cabinet, Multipurpose .....                        | 5-4  |
| Cabinet, Medicine .....                            | 8-1  |
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| Cabinet, Pine .....                                | 7-1  |
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| Cabinet, Record & Tape .....                       | 7-4  |
| Cabinet, Sewing .....                              | 5-5  |
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| Cabinet, Stereo (Contemporary) .....               | 8-5  |
| Cabinet, Tool .....                                | 8-6  |
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| Cabinet, Wall w/ Recessed<br>Finger Pulls .....    | 9-3  |
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| Cupboard, Pine Shaker .....                        | 5-1  |
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| Water Bench, Colonial .....         | 8-2  |
| Weather Forecaster, Old-world ..... | 7-4  |
| Weather Station .....               | 5-6  |
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| Dictionary Stand .....         | 10-4 |
| Dispenser, Stamp .....         | 9-4  |
| Dispenser, Tape .....          | 10-1 |
| Inkwell .....                  | 5-6  |
| Letter Opener .....            | 7-3  |
| Letter Opener, Jackknife ..... | 8-5  |
| Memo Cube .....                | 5-6  |
| Organizer, Desk .....          | 9-6  |
| Organizer, Pipe Smoker's ..... | 8-2  |
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## Household

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|----------------------------|------|
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| Basket, Canada Goose ..... | 10-3 |
| Basket, Clamdigger's ..... | 10-4 |
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| Box, Card .....            | 9-3  |

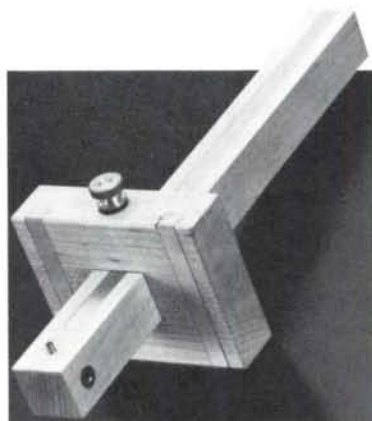
|                                            |      |
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| Box, Pipe (Colonial).....                  | 8-4  |
| Box, Mitten .....                          | 7-6  |
| Candle Holder.....                         | 6-5  |
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| Coaster Set (w/ cork insets).....          | 8-1  |
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| Dispenser, Tape .....                      | 10-1 |
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| Organizer, Pipe Smoker's .....             | 8-2  |
| Rack, Belt .....                           | 5-4  |
| Rack, Cassette Tape .....                  | 8-1  |
| Rack, Firewood .....                       | 6-6  |
| Rack, Letter .....                         | 4-6  |
| Rack, Magazine .....                       | 7-5  |
| Rack, Magazine & Book .....                | 9-1  |
| Rack, Quilt .....                          | 4-6  |
| Rack, Wine .....                           | 7-6  |
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| Stand, Shaker Sewing.....                  | 8-6  |
| Stand, Television/VCR .....                | 9-2  |
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| Tray, Blacksmith's Tool .....              | 9-2  |
| Tray, Breakfast Serving .....              | 6-5  |
| Tray, Contemporary Serving ....            | 7-3  |
| Tray, Oriental Serving .....               | 10-1 |
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| Washstand, Federal Period ....             | 10-2 |
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| Bread Board, Crumb Collecting ..  | 9-4  |
| Canister Set .....                | 8-2  |
| Cart, Kitchen, Butcher Block .... | 9-3  |
| Cart, Microwave .....             | 10-2 |
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**Marking Gauge**  
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|                                           |      |
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| Cutting Boards .....                      | 5-1  |
| Cutting Boards, Landscape<br>Design ..... | 9-6  |
| Coaster Set, Latticework .....            | 6-2  |
| Coaster Set, w/ Cork Insets.....          | 8-1  |
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| Holder, Condiment .....                   | 10-3 |
| Holder, Cookbook .....                    | 8-5  |
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| Holder, Cloth Towel .....                 | 6-5  |
| Holder, Paper Towel .....                 | 8-3  |
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| Lazy Susan .....                          | 8-4  |
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| Mortar & Pestle.....                      | 10-5 |
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| Rack, Knife, Butcher Block.....           | 6-1  |

|                                   |      |
|-----------------------------------|------|
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| Tray, Knife, Antique .....        | 5-6  |
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| Tray, Oriental Serving .....      | 10-1 |
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| Utensils, Wooden Kitchen .....    | 4-5  |
| Vegetable Bin, Country .....      | 8-3  |
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|                                              |      |
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| Contemporary Lamp .....                      | 10-3 |
| Light Fixture, Contemporary<br>Hanging ..... | 6-6  |
| Lighting Fixture, Geodesic .....             | 6-6  |
| Table Lamp, End Grain .....                  | 7-1  |
| Table Lamp, Japanese Style .....             | 6-1  |
| Table Lamp, Nautical .....                   | 7-2  |
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| Turned Lamp .....                            | 7-4  |

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|                                               |      |
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| Chippendale Mirror .....                      | 7-2  |
| Early American Mirror .....                   | 8-4  |
| Hand Mirror .....                             | 5-1  |
| Hand Mirror, Carved .....                     | 8-3  |
| Infinity Mirror .....                         | 6-1  |
| Mirror, Hanging w/ Shelf.....                 | 7-3  |
| Mirror, Tinsel Art .....                      | 7-1  |
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| Vanity Mirror, Adjustable Hanging             | 10-6 |

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| Oak Swing .....                  | 8-4  |
| Porch Swing .....                | 7-2  |
| Sled, Victorian, Toddler's ..... | 5-6  |
| Sleigh, Victorian, Child's ..... | 10-6 |
| Sun Seat, Folding .....          | 5-3  |
| Weather Vane, Sailing Ship ..... | 6-3  |
| Whirligig, Flying Duck .....     | 5-3  |
| Whirligig, Kicking Donkey .....  | 10-2 |
| Whirligig, Woodchopper .....     | 9-2  |
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## Personal Accessories

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| Bootjack .....               | 7-5  |
| Bracelets, Veneer .....      | 8-1  |
| Brooches, Wooden .....       | 8-2  |
| Combs, Wooden .....          | 5-6  |
| Hand Mirror .....            | 5-1  |
| Hand Mirror, Carved .....    | 8-3  |
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| Holder, Necktie & Belt ..... | 9-1  |
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| Shoehorn, Laminated .....    | 6-5  |
| Vanity Case w/Mirror .....   | 10-5 |
| Vanity Mirror .....          | 9-3  |
| Walking Stick, Carved .....  | 8-3  |

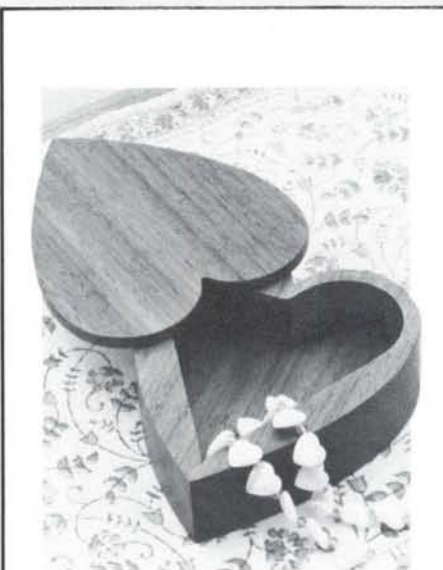
## Planters

|                                     |      |
|-------------------------------------|------|
| Plant Bracket, Wall-hung .....      | 6-2  |
| Plant Hanger, Swing-out .....       | 9-5  |
| Plant Stand w/ Removable Tray ..... | 6-4  |
| Planter, Latticework .....          | 10-4 |
| Planter, Lighted Wall-hung .....    | 7-6  |
| Planter, Octagonal .....            | 6-3  |
| Planter, Wall-hung Box .....        | 7-4  |
| Planter, Wall-hung w/ Shelf .....   | 7-4  |
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| Coffee Table, w/ Matching           |      |
| End Table .....                     | 8-4  |
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| Dining Table, Oak .....             | 9-6  |
| Dining Table, Sawhorse .....        | 6-6  |
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| Coffee Table .....                  | 8-4  |
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| Pedestal, Lighted Display .....     | 8-6  |
| Pedestal Table, Oak .....           | 7-3  |
| Pedestal Table, Shaker .....        | 8-3  |
| Rudder Table, 18th Century .....    | 5-5  |
| Server, Wine .....                  | 8-6  |
| Settle Bench .....                  | 9-4  |
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| Snack Table, Folding .....          | 7-3  |
| Sofa Table, Contemporary .....      | 6-1  |
| Step Table, Early American .....    | 9-1  |
| Stand, Shaker Sewing .....          | 8-6  |
| Stand, Television .....             | 7-2  |

|                             |      |
|-----------------------------|------|
| Stand, Television/VCR ..... | 9-2  |
| Stool, Jacobean Joint ..... | 9-3  |
| Table, Chinese Tea .....    | 7-4  |
| Table, Contemporary .....   | 8-2  |
| Table, Cube .....           | 10-6 |
| Table, Drafting .....       | 7-3  |
| Table, Drop-leaf (double),  |      |



**Valentine Box**  
**Jan/Feb '86**

|                                         |      |
|-----------------------------------------|------|
| Shaker .....                            | 10-1 |
| Table, Drop-leaf (single), Shaker ..... | 10-5 |
| Table, 18th Century Tavern .....        | 5-5  |
| Table, Game/Coffee (Pivot-top) .....    | 9-4  |
| Table, Gate Leg .....                   | 9-4  |
| Table, Hall .....                       | 8-5  |
| Table, 19th Century Cherry .....        | 4-5  |
| Table, Oriental .....                   | 7-5  |
| Table, Parquet .....                    | 9-1  |
| Table, Parsons .....                    | 10-3 |
| Table, Shaker Harvest .....             | 9-2  |
| Table, Ship's Wheel .....               | 5-3  |
| Tables, Nesting .....                   | 8-5  |
| Tray Table, Butler's .....              | 7-1  |
| Trestle Table and Bench .....           | 6-4  |
| Trestle Table, Early American           |      |
| with Benches .....                      | 8-1  |
| Trestle Table, 18th Century .....       | 4-6  |
| Trestle Table, Shaker .....             | 9-1  |
| Tripod Table, Mahogany .....            | 6-2  |
| Washstand, Early American .....         | 10-6 |
| Washstand, Federal Period .....         | 10-2 |
| Washstand, 19th Century Danish .....    | 6-4  |

## Toys/Games

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| Airplane, Toy .....      | 7-5 |
| Bang-a-Peg Toy .....     | 7-1 |
| Bead Toy, Infant's ..... | 8-1 |
| Bed, Doll House .....    | 5-4 |
| Biplane, Toy .....       | 9-1 |

|                                     |      |
|-------------------------------------|------|
| Bongo Box .....                     | 8-5  |
| Box of Shapes Toy .....             | 10-4 |
| Bulldozer, Toy .....                | 8-2  |
| Busy Bee Toy .....                  | 8-6  |
| Car, w/ Boat & Trailer, Toy .....   | 7-3  |
| Car Carrier, Toy .....              | 8-1  |
| Car and Trailer, Toy .....          | 8-3  |
| Card Box .....                      | 9-3  |
| Circus Wagons, Toy .....            | 4-6  |
| Cradle, Hooded Doll .....           | 7-6  |
| Crane, Toy .....                    | 10-3 |
| Doll House, Colonial .....          | 8-6  |
| Dominoes .....                      | 5-3  |
| Dump Truck Toy .....                | 7-1  |
| Fire Truck, Toy Hook & Ladder ..... | 8-6  |
| Fire Truck, Toy Pumper .....        | 7-5  |
| Helicopter, Toy .....               | 6-3  |
| Hippo, Toy .....                    | 5-5  |
| Ironing Board .....                 | 9-5  |
| Jeep, Toy .....                     | 6-4  |
| Kiddie Gym .....                    | 5-3  |
| Marble Race .....                   | 9-3  |
| Monkey, Tumbling .....              | 10-2 |
| Nuts & Bolts .....                  | 4-5  |
| Off-Road Vehicle, 4 x 4 .....       | 9-6  |
| Pull Toy, Duck .....                | 9-6  |
| Pull Toy, Frog .....                | 6-1  |
| Pull Toy, Rabbit .....              | 10-6 |
| Push Toy, Elephant .....            | 7-6  |
| Push Toy, Seal .....                | 5-6  |
| Push Toy, Willie & Tuna .....       | 6-6  |
| Puzzle .....                        | 7-1  |
| Puzzle, Block .....                 | 9-5  |
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| Puzzle, Teddy Bear .....            | 9-6  |
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| River Ferry & Car, Toy .....        | 8-5  |
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| Table, Game (Backgammon &           |      |
| Checkers) .....                     | 9-4  |
| Tic-Tac-Toe Game .....              | 5-1  |
| Tool Box, Toy .....                 | 6-6  |
| Tool Set, Toy .....                 | 9-2  |
| Top, Spinning .....                 | 8-5  |
| Tow Truck & Car, Toy .....          | 10-1 |
| Toy Chest .....                     | 6-4  |
| Tractor & Cart, Toy .....           | 7-4  |
| Train, Toy .....                    | 7-6  |
| Truck, Toy .....                    | 4-6  |
| Trucks, Toy (Combination Semi-      |      |
| Trailer and Flatbed) .....          | 9-4  |
| Tugboat & Barge, Toy .....          | 8-4  |
| Wagon, Toy .....                    | 10-5 |
| Whale, Toy .....                    | 6-5  |

## Wall-Hung Cabinets

|                            |     |
|----------------------------|-----|
| Buffet, Contemporary ..... | 5-3 |
| Cabinet, Cutlery .....     | 9-5 |

|                                    |      |
|------------------------------------|------|
| Cabinet, Display .....             | 10-4 |
| Cabinet, Medicine .....            | 8-1  |
| Cabinet, Pierced Tin .....         | 6-2  |
| Cabinet, w/ Recessed Finger Pulls  | 9-3  |
| Cabinet, Reverse Glass Stencil ... | 7-1  |
| Cabinet, Telephone .....           | 8-2  |
| Cabinets, Display .....            | 8-3  |
| Corner Cupboard, Early             |      |
| American .....                     | 6-5  |
| Secretary, Early American .....    | 7-6  |
| Spice Cabinet, Punched Tin .....   | 7-2  |
| Wall Unit, Early American .....    | 7-3  |

## Workshop/Studio

|                                 |      |
|---------------------------------|------|
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| Auxiliary Cut-off Table for     |      |
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| Box, Router Bit .....           | 10-5 |
| Cabinet, Tool .....             | 8-6  |
| Cam Clamp .....                 | 8-4  |
| Bar Clamp, Shop-built .....     | 5-6  |
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| Gauge, Marking .....            | 9-6  |
| Homemade Jig Saw .....          | 7-2  |
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| Mallets, Wooden .....           | 10-2 |
| Plane, Wooden Smooth .....      | 9-5  |
| Radial Arm Crosscut Table ..... | 4-2  |
| Roller Stand .....              | 7-6  |
| Router Bit Box .....            | 4-4  |
| Router Table .....              | 7-5  |
| Router Table, Benchtop .....    | 10-6 |
| Shaving Horse .....             | 9-4  |
| Shop Drawing Board .....        | 5-1  |
| Shop Trammel .....              | 8-5  |
| Table Saw Cut-off Table .....   | 8-1  |
| Workbench, Cabinetmaker's ....  | 4-5  |
| Workbench, Fold-up .....        | 9-4  |
| Workbench, Modelmaker's .....   | 7-5  |
| Workshop Tote Box .....         | 7-1  |
| Workstation, Shop .....         | 10-3 |

## Departments

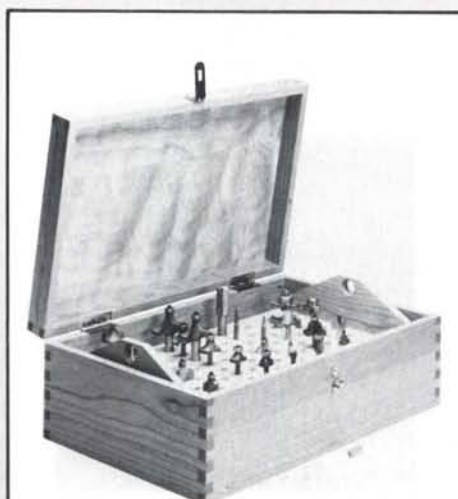
### Cabinetmaker's Supplies

|                                |      |
|--------------------------------|------|
| Caning & Wood Finishing        |      |
| Suppliers .....                | 9-4  |
| Clock Parts Suppliers .....    | 10-6 |
| Furniture Kits Suppliers ..... | 10-4 |
| General Woodworking Suppliers  | 10-5 |
| Hardware Suppliers .....       | 10-2 |
| Hardwood Suppliers .....       | 9-6  |

### Special Techniques

|                                 |     |
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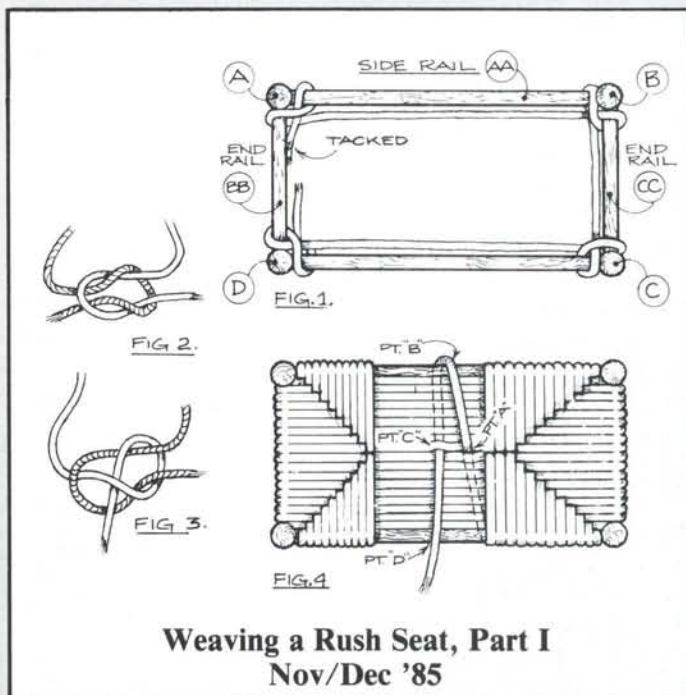
## Restoring Antiques

*This regular column is prepared by a furniture restoration specialist. While volumes can be written on the subject, John Olson gives woodworkers a broad overview of the steps and methods involved in refinishing and restoration.*

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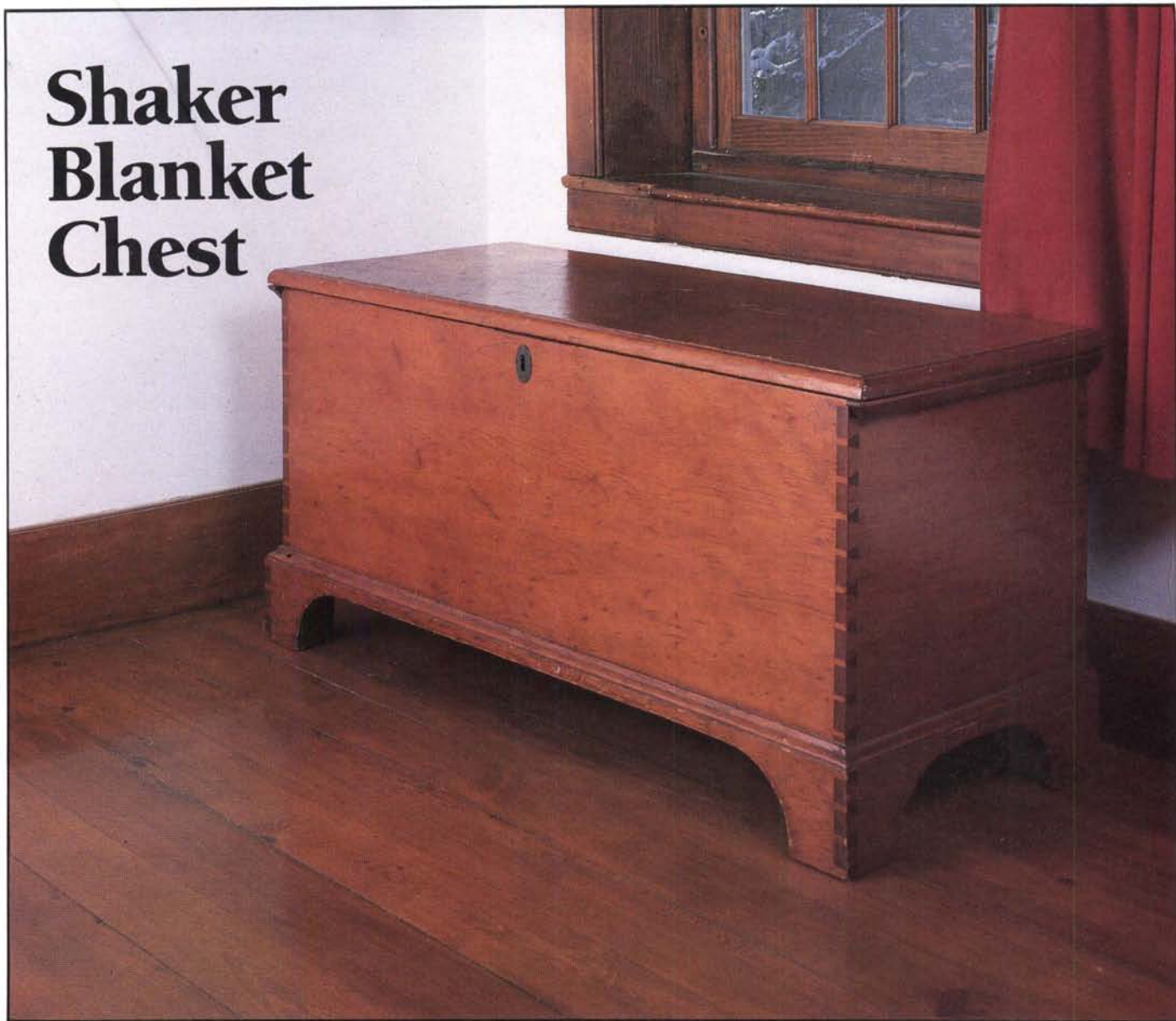
## Workshop Income

*The information in Workshop Income is meant to give the reader a general knowledge of the important considerations in a woodworking business. When space limitations preclude an in-depth examination, we frequently recommend sources for further reading.*

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# Shaker Blanket Chest



**T**he blanket chest is recognized as one of the finest examples of traditional Shaker design. From the moment this particular piece first caught our attention at Hancock Shaker Village in Hancock, Massachusetts, we knew it was something special. Lovely wide board pine construction, crisp and perfectly fitted hand-cut dovetails, handsome molded edge details, and well-balanced proportions all contribute to the classic aspect of this chest. So attractive was this piece, we purposely set it aside as an ideal project to premier our first color issue.

If you enjoy hand-cutting dovetails, this chest will provide ample opportunity to practice the art. Although pine was used in the original, cherry, maple, or walnut would be an excellent alternate should you prefer a hard-

wood. Start by getting out  $\frac{3}{4}$  in. thick stock for the front and back (A), ends (B) and bottom (F). Unless you have access to wide board stock, edge-glue sufficient material for these parts.

Using the router, a  $\frac{3}{8}$  in. straight cutter, and the edge guide, cut the stopped  $\frac{1}{4}$  in. by  $\frac{3}{8}$  in. grooves in the front and ends to accept the bottom. Establish the corresponding  $\frac{3}{8}$  in. by  $\frac{1}{4}$  in. tongue on the bottom front and ends, and also cut the  $\frac{1}{2}$  in. wide by  $\frac{1}{4}$  in. deep grooves as shown in parts A and B to accept the box bottoms (I) and sides (J).

You will note that in the bill of materials we have dimensioned the chest bottom (F) full width. If you are building the chest during the winter, you should size the bottom about  $\frac{1}{16}$  in. less than the indicated  $17\frac{1}{2}$  in. width

to allow for some expansion in the wood during the seasons with higher relative humidity. Of course, the best way to avoid problems with expansion and contraction is to substitute plywood for the pine bottom. An attractive section of  $\frac{3}{4}$  in. thick cabinet grade plywood will provide dimensional stability, in addition to strength and rigidity. Shaker purists will no doubt scoff at such a substitution, but one dedicated student of Shaker methods we know points out that if they were anything, the Shakers were pragmatists. He argues that they were the first to make use of new tools and ideas, and would probably have been among the first to use plywood had it been available to them. A most astute observation!

(continued on next page)

After all the tail cuts are complete, use a coping saw to remove the bulk of the waste, staying just off the scribe line. Now use a very sharp chisel to clean the bottom of the waste or pin area between the tails. The most effective way to do this is to clamp the chest sides flat on your bench, with a backup board underneath, and a guide board for the chisel located even with the scribe line. The wider the guide board, the more accurate your chisel cuts are likely to be. Remember to keep the flat back of the chisel even with the guide board. *Tip:* The inside surface of the

Next, get out 1 in. thick stock for the base parts (C, D, & E), the top (G) and the top cleat (H). Again, unless you have access to wide stock you will need to joint and edge-glue sufficient stock to achieve the 19 $\frac{3}{8}$  in. top width. Use the router or table saw molding head to apply the  $\frac{3}{4}$  in. radius round-over to the top front and ends. After cutting the base parts to length and width, use

After sanding, a natural hand-rubbed penetrating or tung oil finish will lend an authentic look to the chest. Several applications, buffed lightly between coats, should provide a soft, mellow patina. W&J



If you like dramatic contemporary form, this glass-top dining table is an opportunity to create a piece that will certainly be the focal point of your dining room. The four bent laminations radiating out from a central hub present a graceful, flowing, sculptural form, which is enhanced by the addition of the plate glass top. Our table is crafted in cherry with ebony accents.

Begin by making the legs (A) which consist of eight stacked  $\frac{1}{8}$  in. thick by  $3\frac{1}{2}$  in. wide by 60 in. long laminations. You will need to build a particleboard mold, as shown in the bent lamination detail, around which to clamp these laminations. The mold is constructed of five layers of  $\frac{3}{4}$  in. thick particleboard, measuring  $10\frac{1}{2}$  in. wide by  $30\frac{1}{2}$  in. long. When the five-layer mold is dry, lay out the 5 in. radius around the top end and scribe lines tapering the sides down to a  $9\frac{1}{2}$  in. width at the bottom end, as shown. Cut out the mold shape on the band saw, staying just outside the line, then disk sand to the line to smooth the final form. Now

scribe the  $3\frac{1}{2}$  in. and  $2\frac{1}{2}$  in. radii, and lay out the location of the 1 in. diameter holes to accept the clamp blocks. A 1 in. diameter spade bit in the drill press can be used to drill these holes. Bevel the hole ends as indicated.

In order to make the 11 clamp blocks, you'll need about 70 inches of 1 in. diameter dowel stock, 70 inches of  $\frac{1}{4}$  in. thick by  $1\frac{1}{2}$  in. wide clear hardwood, 136 inches of  $\frac{1}{4}$  in. diameter threaded rod, 66 nuts, and 66 washers. After crosscutting the dowel, hardwood, and threaded rod stock into 6 in. lengths, drill through the dowels and hardwood clamp blocks to accept the  $\frac{1}{4}$  in. diameter threaded rod.

Apply paste wax to the mold, clamp blocks, clamping bars and backup lamination strip (to keep parts from sticking together from excess glue squeeze-out), insert the dowels in the mold, add the threaded rods through the dowels and secure with washers and nuts as shown. Open end wrenches or deep well sockets are especially handy for this, and for tightening the

clamp blocks later.

Select good clear, straight-grained stock free of knots, burls and other defects. Resaw and thickness plane forty  $\frac{1}{8}$  in. by  $3\frac{1}{2}$  in. by 60 in. long laminations. Try to keep the laminations in order where possible, since this will result in the best visual effect. Although each of the four legs requires only 8 laminations for a total of 32 pieces, the extra laminations are needed as backup strips, and to replace laminations in case of failure during bending. At this point, test bend each lamination individually around the form, discarding any that crack or break. Note that the mold must be secured in some way for stability. We simply mounted the mold on end, screwing up through a 3 foot square section of  $\frac{3}{4}$  in. thick plywood. Now mix up about  $1\frac{1}{2}$  pints of plastic resin glue (available in powder form at most hardware stores). Plastic resin glue is exceptionally strong, moisture resistant, and will allow you considerable work time. A fresh batch is needed for

## Glass-Top Dining Table



each leg lamination.

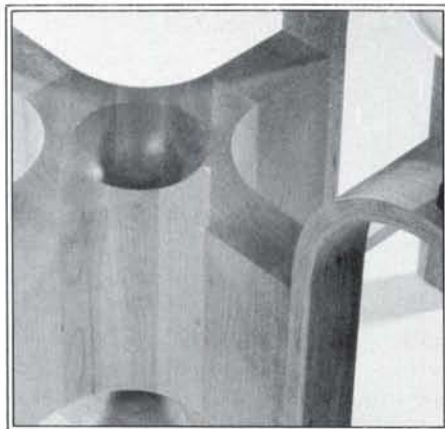
Assemble the stacked lamination, using a 3 in. wide paint roller to apply the glue to all mating surfaces. Note that the 8 laminations should be staggered at about 45 degrees as illustrated. Take care not to apply any glue to the inside surface, facing the mold, or to the outside surface, facing the backup strip.

Add the backup strip, clamp the long end of the lamination securely with two bar clamps and a clamp bar as shown, then apply the dowel/clamp blocks one by one, working around the mold until the bend is complete. Finally, add the opposite side clamping bar and the 3 bar clamps, and tighten all clamps securely. *Clamping notes:* When applying the successive dowel/clamp blocks, you will need to gradually draw the first clamp up, then add the second and third clamps, tighten the first clamp, add the fourth clamp, etc. in order to gradually work the lamination around the mold. Several waxed blocks and a C-clamp will probably be needed on the free end of the stacked lamination to keep the edges flush while you work. Although plastic resin glue will allow considerable work time, the entire process must be completed in 20 minutes lest the glue starts to set up. Follow the same process for the remaining three legs, letting each glue-up remain in clamps for at least 24 hours.

When the laminations are removed from the mold, they should spring back slightly to a true 180-degree bend. Do not be concerned about small variations, since the four legs will be locked in place later on.

Use a belt sander or disk grinder to remove heavy glue squeeze-out. We used the table saw and jointer to trim the laminated legs to their final 3 in. width. Construct a 12 in. high auxiliary fence for the table saw, set the fence to rip about  $\frac{1}{8}$  in. off one edge of the lamination, and raise the blade to  $\frac{1}{8}$  in. height. Rotate the stock through the blade, keeping the stock tightly against the fence and your hands between your body and the blade at all times. This  $\frac{1}{8}$  in. deep score line will prevent tear out and chipping when you complete the cut. Now raise the blade height to  $\frac{1}{2}$  in., and following the same instructions of keeping the workpiece tight against the fence and your hands away from the blade, once again rotate the stock through the blade, completing the cut. Great care is needed for this operation, since there is a very real chance of kickback. If you are not

thoroughly comfortable with the table saw, you would be better off saber sawing and hand planing to achieve the final 3 in. leg width. After ripping the  $\frac{1}{8}$  in. thick strip off one side of the lamination, use the jointer to clean up the edge, removing any saw marks. Now go back to the table saw, and with the jointed edge against your 12 in. high auxiliary fence, rip the lamination to about  $3\frac{1}{16}$  in. width, following the same procedure of cutting the score



line first, and then making the full depth cut. Again, take great care with this operation. Return to the jointer and surface the just sawn edge to achieve the final 3 in. leg width.

After cutting the legs to final length on the table saw, use the drill press and a  $1\frac{1}{2}$  in. Forstner bit (see drilling detail) to establish the  $\frac{1}{4}$  in. deep holes that will accept the ebony spacers (B). Sand as necessary to clean up the lamination perimeter, and remove any marks or flat spots that might have resulted from clamp block pressure. Also final sand the leg interiors, since sanding here will be difficult after assembly.

Next, laminate sufficient stock to make the 10 in. leg hub cube (C). After indexing to establish the center for the lathe mounting, use the table saw to bevel the four hub edges at 45 degrees (see leg hub detail). Mount the leg hub block to the 6 in. lathe faceplate, screwing into the hub bottom with no. 10 by  $1\frac{1}{4}$  in. long screws. You may screw directly into the hub block bottom, since the screw holes will not be visible. Use a spear point and a  $\frac{1}{2}$  in. roundnose to turn the  $2\frac{3}{4}$  in. deep hemispherical depression. The spear point can be used to remove the bulk of the stock, with the roundnose then employed to shape out the hemisphere. The spear point is suggested because it cuts with less chatter. Now use the table saw (see cove cutting detail) to establish the 4 in. radius cove cuts on all four sides of the cube. As il-

lustrated, the fence is clamped at 63 degrees. Although the final blade height setting will be  $1\frac{1}{8}$  in., a number of passes with gradual (about  $\frac{1}{16}$  in.) adjustment of the blade will be needed to remove the stock. Work gradually and do not force the stock through the blade, or you'll labor the saw and ruin your blade.

Cut the hub extension blocks (D) to size, and mount to the hub as shown. The dowels serve to assist the location, but are not needed for strength as the joint will be a good long grain connection. Final sand to flush the hub extension blocks with the hub all around.

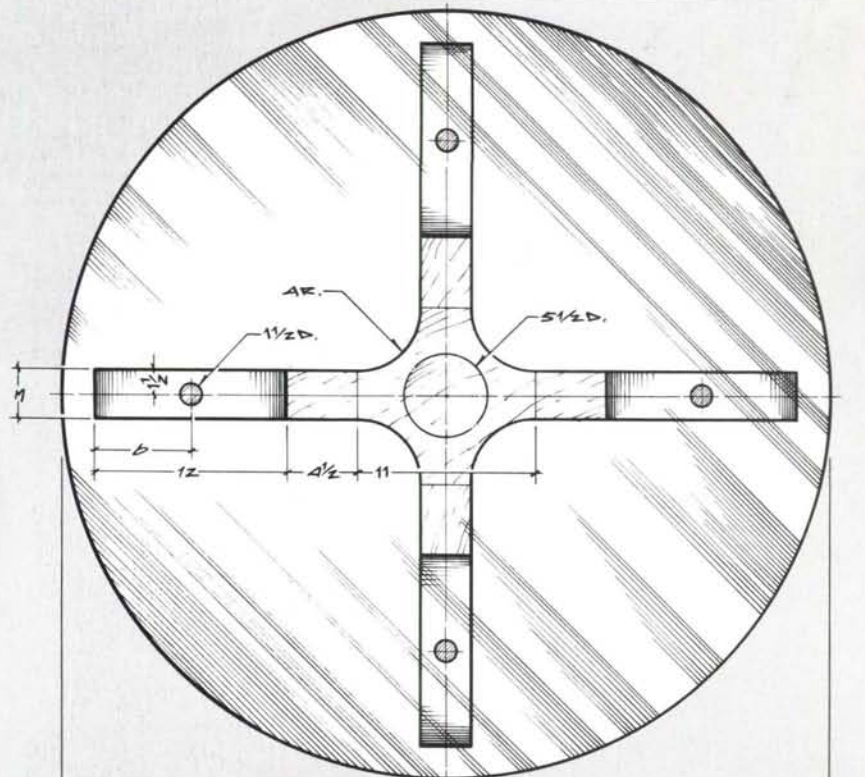
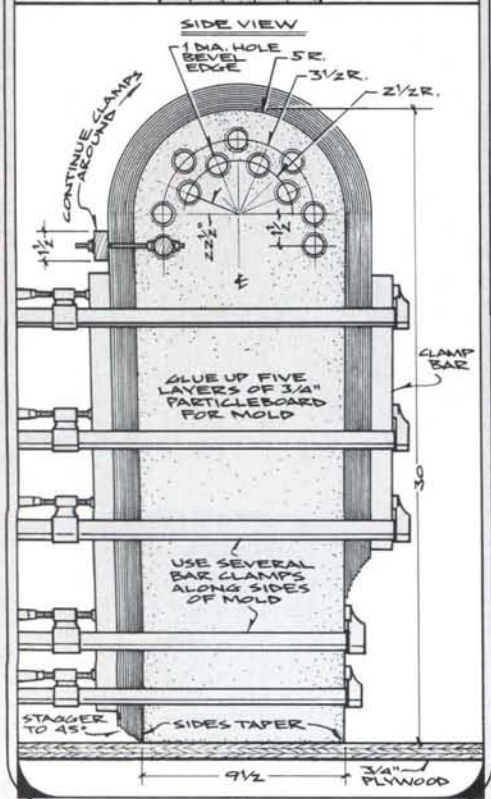
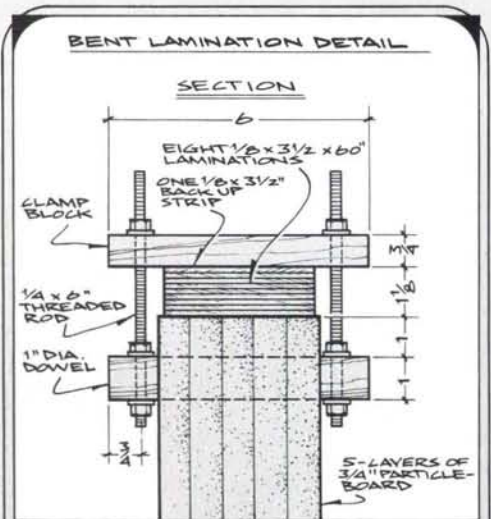
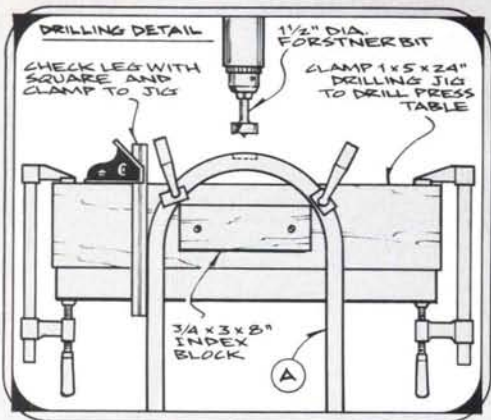
Now make the stretcher hub (E) and the stretchers (F), tenoning the ends of the stretchers (see tenon detail) and mortising the stretcher hub correspondingly. After boring the slotted holes in parts F (see exploded view), glue and assemble the stretchers around the stretcher hub.

You are now ready for the final assembly. Drill for the location dowels in the legs and hub assembly. Note that accurate positioning of the legs relative to the hub assembly is essential if the glass top (G) is to sit flush on all four spacers. Glue the legs around the hub, and add the stretcher assembly, screwing up through the slotted holes, and counterboring and plugging through the legs as shown. The ebony plugs contrast nicely and accent the construction. To provide additional strength, we added epoxy glue to help anchor the screws, since they are fastened into end grain. Both the screw plugs and spacer disks are epoxied in place, since white or yellow glue is ineffective in working with ebony.

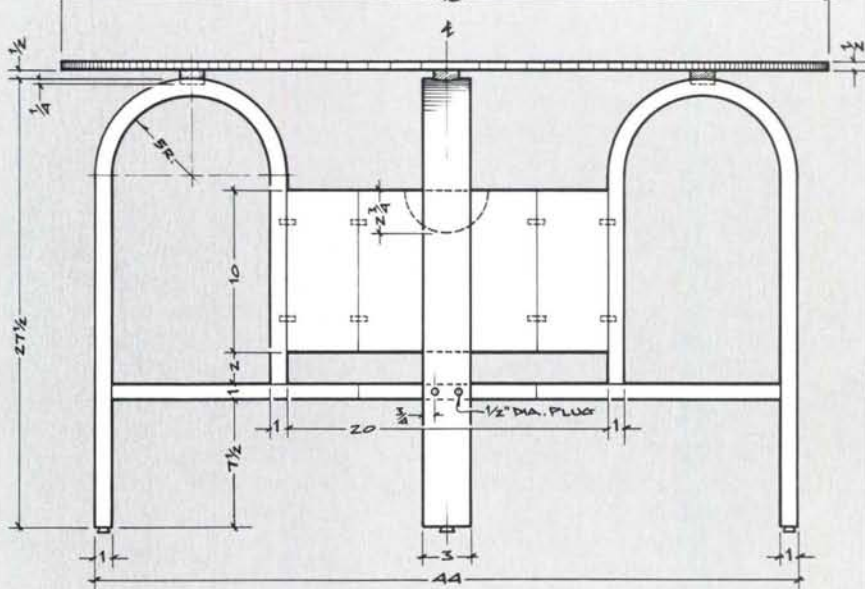
The  $\frac{1}{2}$  in. thick glass top (G) will be a special order item through your local glass shop. Specify a ground and polished edge. Expect to pay about \$200 for the glass. We added levelers (H), which will permit adjustment to achieve a perfect 4-point stance for the table, eliminating any slight variation in the leg laminations or the final assembly. T-nuts ( $\frac{1}{8}$ -18), available at your local hardware store, are used to mount the levelers. *Note:* It will probably be necessary to slightly sand down one or more of the ebony spacers in order to get a flush fit of the glass top at all four points.

After final sanding to bring the legs in flush with the hub and stretcher assemblies, spray on two or three coats of Deft Clear Wood Finish. Buff with 0000 steel wool between coats for a super smooth satin finish. 

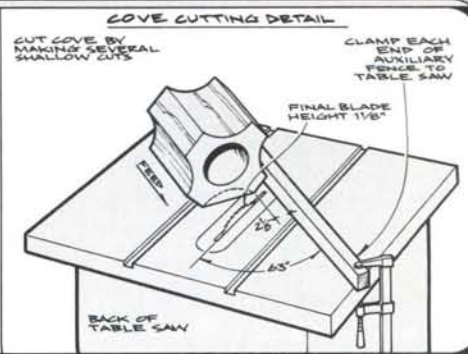
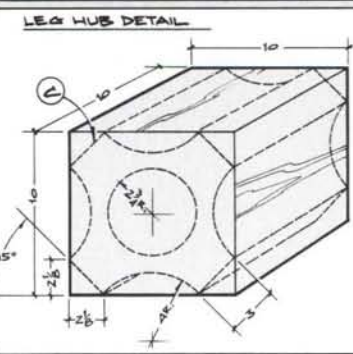
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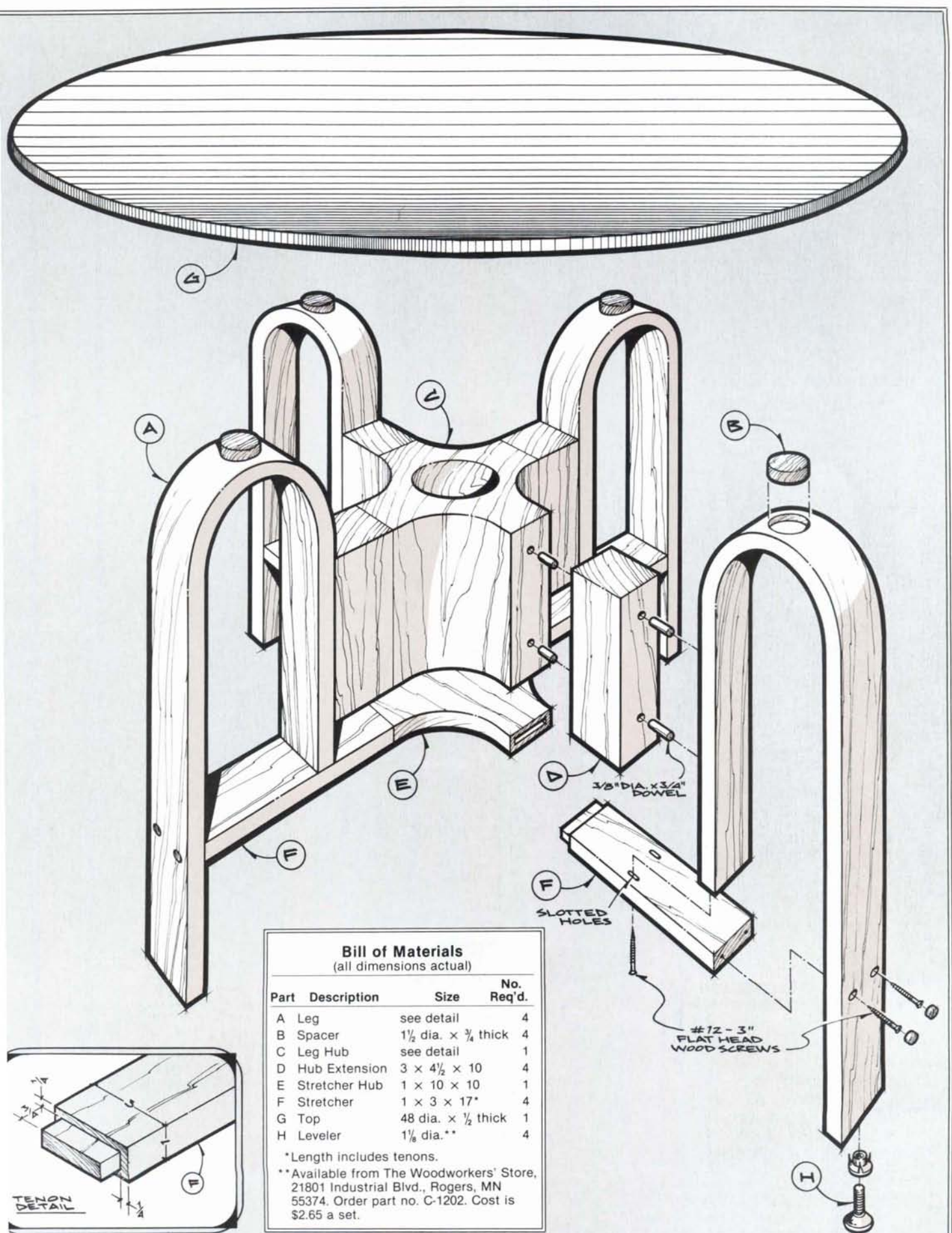


**TOP VIEW**



**SIDE VIEW**



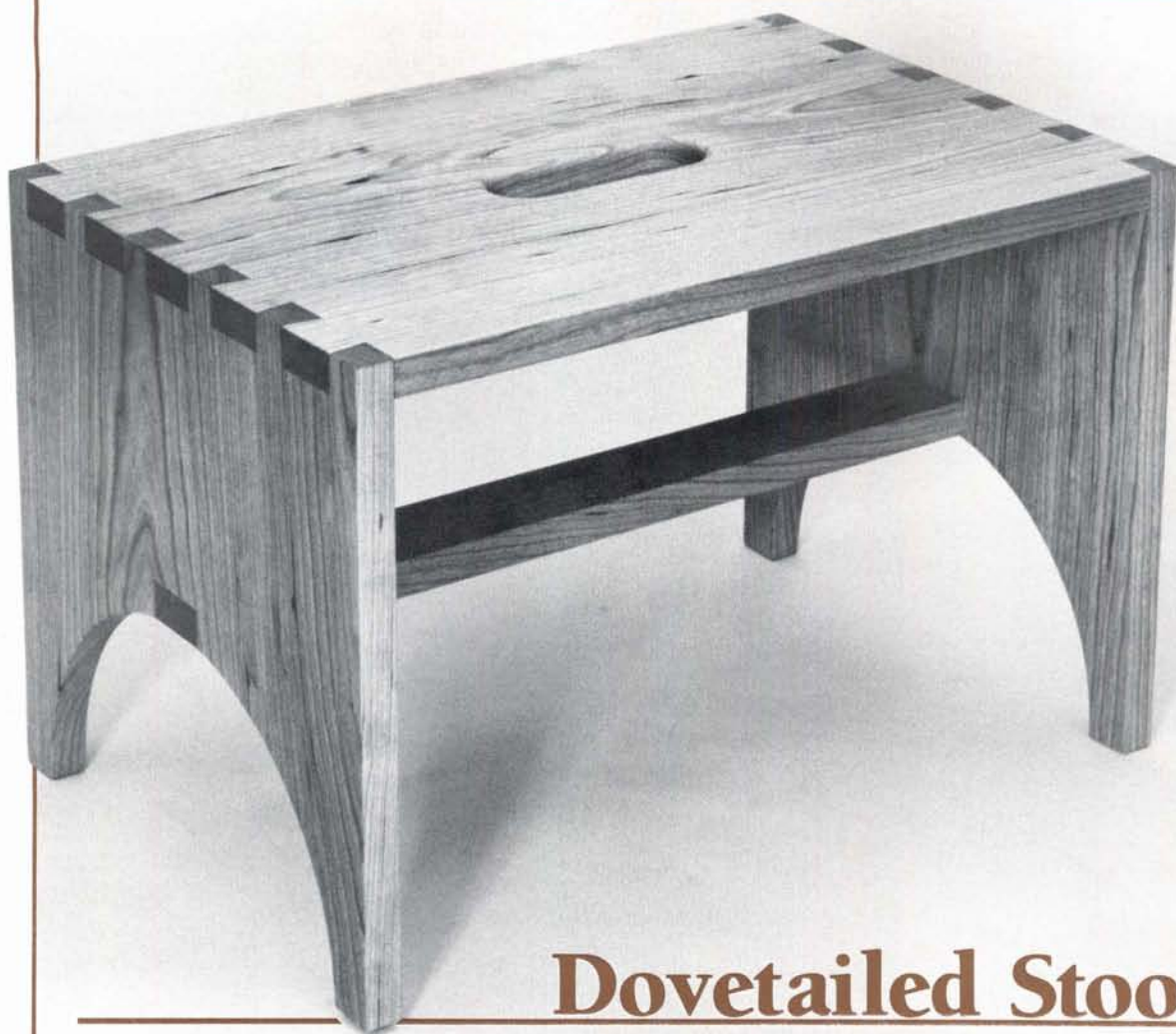


**Bill of Materials**  
(all dimensions actual)

| Part | Description   | Size              | No. Req'd. |
|------|---------------|-------------------|------------|
| A    | Leg           | see detail        | 4          |
| B    | Spacer        | 1½ dia. × ¾ thick | 4          |
| C    | Leg Hub       | see detail        | 1          |
| D    | Hub Extension | 3 × 4½ × 10       | 4          |
| E    | Stretcher Hub | 1 × 10 × 10       | 1          |
| F    | Stretcher     | 1 × 3 × 17"       | 4          |
| G    | Top           | 48 dia. × ½ thick | 1          |
| H    | Leveler       | 1⅞ dia.**         | 4          |

\*Length includes tenons.

\*\*Available from The Woodworkers' Store,  
21801 Industrial Blvd., Rogers, MN  
55374. Order part no. C-1202. Cost is  
\$2.65 a set.



## Dovetailed Stool

In talking with hobbyist woodworkers, many of whom have been at it for years, we are surprised at the number who have never tried cutting and fitting a dovetail joint. Others say they have attempted dovetails, but prefer other methods of joinery because of the difficulty in achieving a good, tight, close fitting dovetail connection.

Still, there is no arguing the fact that a well-fitted dovetail joint is not only one of the strongest, but also one of the most attractive and distinctive ways of joining one board to another. We believe that the Special Techniques feature on pages 23 through 27 provides an accurate, reliable method of cutting and fitting dovetails. This simple, utilitarian stool offers you an opportunity to try out this special technique.

Although the idea for this project was adapted from an old Shaker design, this stool will be at home in any decor from traditional to contemporary. Its size makes it handy for reaching those upper cabinet shelves in the kitchen, or the top shelf in the bedroom closet, and it doubles as a sitting stool for kids or company. The handle cutout is convenient for carrying from one room to another.

Our stool is crafted in cherry, but some other hardwood or pine would also be fine. However, unless you have stock that is a full 12 in. wide, you will need to joint and edge glue several boards to achieve this 12 in. width. A total of 43 in-

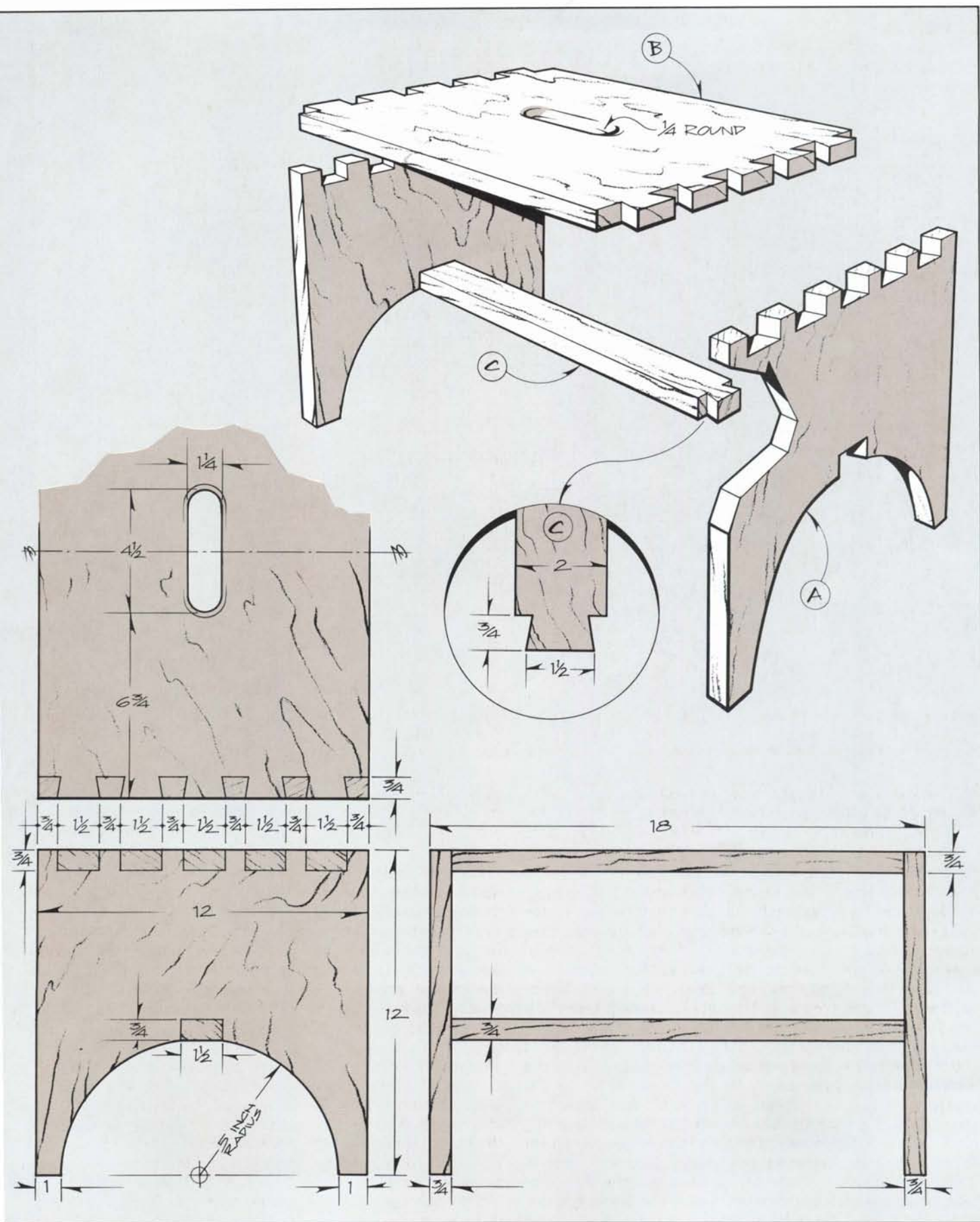
ches of 12 in. wide stock is required for the two sides (A) and the top (B). If you edge-glue stock to obtain the necessary width, try to match the grain closely so the board appears whole.

Crosscut the 43 in. long board to make the two sides and the top, and lay out the dovetail spacing as shown. Now refer to the Special Techniques feature, and follow the step-by-step instructions for cutting the tails and pins. As noted, you will need a  $\frac{1}{2}$  in. collet router and a large dovetail bit if you follow the special technique method. A 14-degree  $\frac{3}{4}$  in. wide dovetail bit with a  $\frac{1}{2}$  in. shank is available from Garrett Wade Company, 161 Ave. of the Americas, New York, NY 10013. Order part no. 69K25.03. Two passes will be needed to clean out the waste between the tails.

After the pins and tails have been machined and test-fitted, scribe the 5 in. radius as shown on the sides and band saw the curve. Use the large dovetail bit and the router table to machine the tail on the ends of the stretcher (C), then cut the corresponding dovetail mortise in the sides and fit the stretcher. After cutting out and rounding over the handle cutout in the top, glue and assemble the stool.

Final sand, gently breaking all sharp edges, and finish with three coats of penetrating oil.

Wwj



designed and built by Tony Lydgate

# Jewelry Box



New designs are truly as scarce as the proverbial "hen's tooth". As one sage aptly pointed out, "Everything has been done before." Even the most accomplished designer/craftsmen generally agree that genuinely new and innovative designs are rare. The best work is usually a skilled adaptation, careful refinement, or creative presentation of some previous form.

Nowhere is this more valid than in the case of jewelry boxes. We've seen all types of boxes — crude, simple, sophisticated, and complex — in practically every design imaginable.

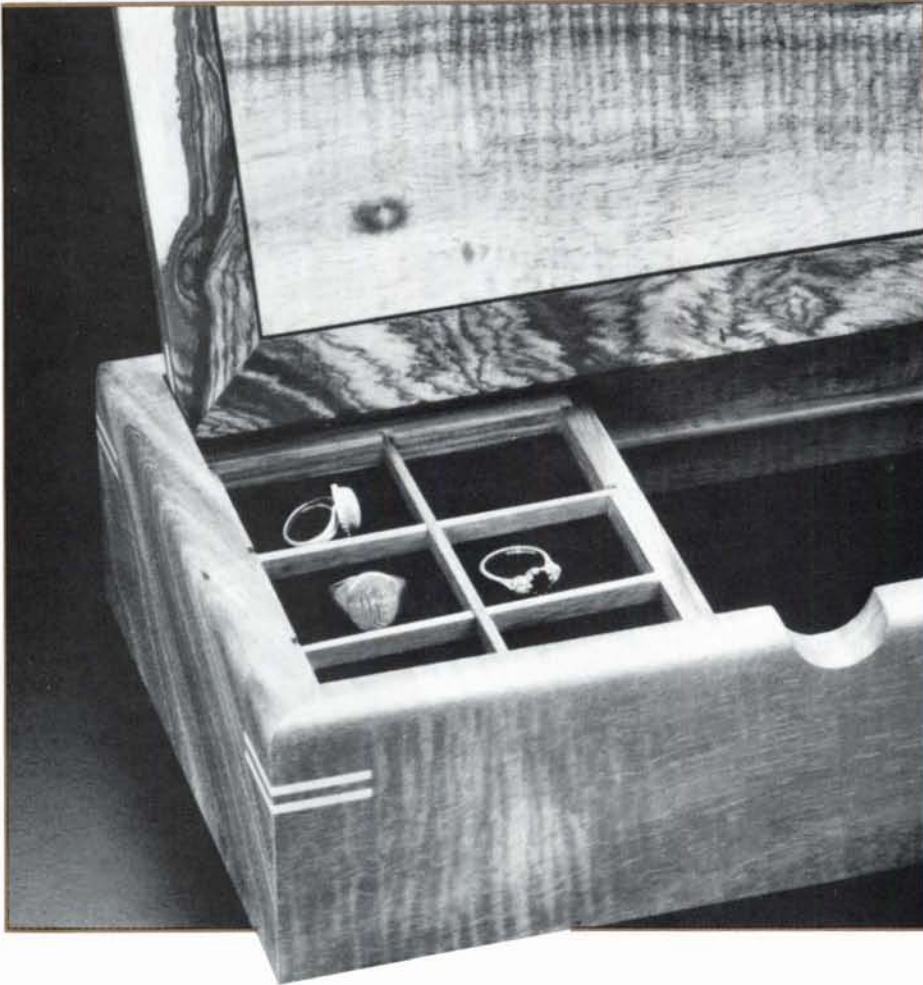
Still, when these jewelry boxes by California master craftsman Tony Lydgate, caught our eye at the A.C.C. Craft fair in West Springfield, Massachusetts, we were impressed.

Although they are one of the simplest designs possible, judicious selection of stock and the incorporation of subtle details combine for a striking effect. Mr. Lydgate, who is nationally recognized as one of the top designer/craftsmen, noted that traditionally these jewelry boxes have been one of his best-selling items. He points out that their success is proof positive that good designs need not be elaborate or unusual.

The boxes shown are crafted in figured maple and Hawaiian koa respectively. Both box lids feature cocobola frames accented with koa panels. While the boxes would look rather boring in a plain wood such as pine, any number of different woods can be combined with great success. A

combination of walnut, figured maple and cherry would be lovely, for instance. Select an especially dramatic section of board in order to highlight the lid panel, and be sure to use contrasting splines to accent the box and lid construction. For those who haven't worked much in exotic woods, the box is an opportunity to discover how the dramatic color and grain of such woods as padauk, bubinga, zebrawood, purpleheart, cocobola and others can be used to transform the plain into the extraordinary. If you don't have a local supplier, a good mail order source for exotic woods is the Berea Hardwoods Company, 125 Jacqueline Drive, Berea, Ohio 44017.

One of the best aspects of making



### Bill of Materials (all dimensions actual)

| Part | Description              | Size                                                   | No.<br>Req'd. |
|------|--------------------------|--------------------------------------------------------|---------------|
| A    | Front/Back               | $\frac{5}{8} \times 3\frac{1}{4} \times 12$            | 2             |
| B    | End                      | $\frac{5}{8} \times 3\frac{1}{4} \times 7\frac{1}{2}$  | 2             |
| C    | Bottom                   | $\frac{1}{8} \times 6\frac{5}{8} \times 11\frac{1}{8}$ | 1             |
| D    | Bottom Cardboard         | $6\frac{1}{4} \times 10\frac{3}{4}$                    | 1             |
| E    | Bottom Liner<br>(velvet) | $8\frac{1}{4} \times 12\frac{3}{4}$                    | 1             |
| F    | Box Spline               | $\frac{3}{32} \times 1 \times 1^*$                     | 8             |
| G    | Tray Support             | $\frac{1}{8} \times \frac{1}{2} \times 10\frac{3}{4}$  | 2             |
| H    | Lid Stop                 | $\frac{1}{8} \times \frac{3}{8} \times 10\frac{3}{4}$  | 1             |
| I    | Lid Front/Back           | $\frac{1}{2} \times 1 \times 10\frac{3}{4}$            | 2             |
| J    | Lid End                  | $\frac{1}{2} \times 1 \times 6\frac{1}{4}$             | 2             |
| K    | Lid Panel                | $\frac{1}{2} \times 4\frac{3}{4} \times 9\frac{1}{4}$  | 1             |
| L    | Lid Spline               | $\frac{3}{32} \times 1 \times 1^*$                     | 4             |
| M    | Tray Front/Back          | $\frac{3}{8} \times \frac{3}{4} \times 4\frac{3}{8}$   | 2             |
| N    | Tray Sides               | $\frac{3}{8} \times \frac{3}{4} \times 6$              | 2             |
| O    | Tray Bottom              | $\frac{1}{8} \times 4\frac{1}{4} \times 5\frac{1}{2}$  | 1             |
| P    | Tray Cardboard           | $4 \times 5\frac{1}{4}$                                | 1             |
| Q    | Tray Liner (velvet)      | $6 \times 7\frac{1}{4}$                                | 1             |
| R    | Short Divider            | $\frac{1}{8} \times \frac{1}{4} \times 4\frac{1}{4}$   | 2             |
| S    | Long Divider             | $\frac{1}{8} \times \frac{1}{4} \times 5\frac{1}{2}$   | 1             |
| T    | Pin                      | $\frac{1}{16}$ dia. $\times$<br>1 in. long             | 2             |

\*Final size.

this box is the fact that except for the finger lift recess and slot, the entire box construction is a table saw operation. As indicated in the bill of materials, you will need  $\frac{5}{8}$  in. stock for the box carcase (parts A & B). If you don't have a thickness planer, hand plane  $\frac{3}{4}$  in. stock down to  $\frac{5}{8}$  in. thickness. Incline the table saw blade to 45 degrees, and miter the ends of parts A and B. Next, with the fence in the same setting and the blade set for  $\frac{3}{16}$  in. height, cut the  $\frac{1}{8}$  in. by  $\frac{3}{16}$  in. groove in the front, back and ends to accept the bottom (C). Leave the blade at the  $\frac{3}{16}$  in. height, reset the fence, and cut the groove in the front and back for the tray supports (G). Once more, reset the fence and cut the groove in the front for the lid stop (H). After cutting the bottom to size from  $\frac{1}{8}$  in. thick plywood, glue and assemble the front, back and sides around the bottom; clamp and set aside to dry.

Next, get out stock for the lid (I, J, and K). Again, if you don't have  $\frac{1}{2}$  in. stock, resaw and plane  $\frac{3}{4}$  stock to get the  $\frac{1}{2}$  in. thick material you will need. Set the miter gauge at 45 degrees and

miter the lid frame front, back and ends. Cut the  $\frac{5}{8}$  in. wide by  $\frac{1}{4}$  in. deep panel groove in these parts, and establish the  $\frac{1}{8}$  in. by  $\frac{1}{4}$  in. tongue on all four sides of the panel. *Note:* Depending on the season, you may wish to allow a little space across the width of the panel to permit expansion (see cross-section). Now glue and clamp the frame with the panel in place.

The jig shown in the spline cutting detail is used to cut the spline grooves in both the box and the lid. The blade height setting for both operations is  $1\frac{1}{16}$  in. After the spline grooves have been cut, make the splines (F and L). Although the spline detail shows the approximate final spline size, it is best to start with the splines slightly oversize, and then flush them with the box and lid respectively after they have been glued in place. As indicated in the spline detail, cut the splines so the grain will run diagonally across the joints, providing maximum strength.

Hand sand or use a  $\frac{1}{4}$  in. radius round-over bit with the router to apply the rounded edge to the top perimeter of the box. The finger recess in the box front is rough shaped by hand, then smoothed by using a  $1\frac{1}{8}$  in. diameter drum sander mounted either in the drill press or a hand drill. The finger slot in the lid can be drilled out and cleaned by hand or cut with the router.

Glue the tray supports and lid stop in place, and after rounding over the top back edge of the lid (see cross-section), mount the lid with brass pins (T) as shown.

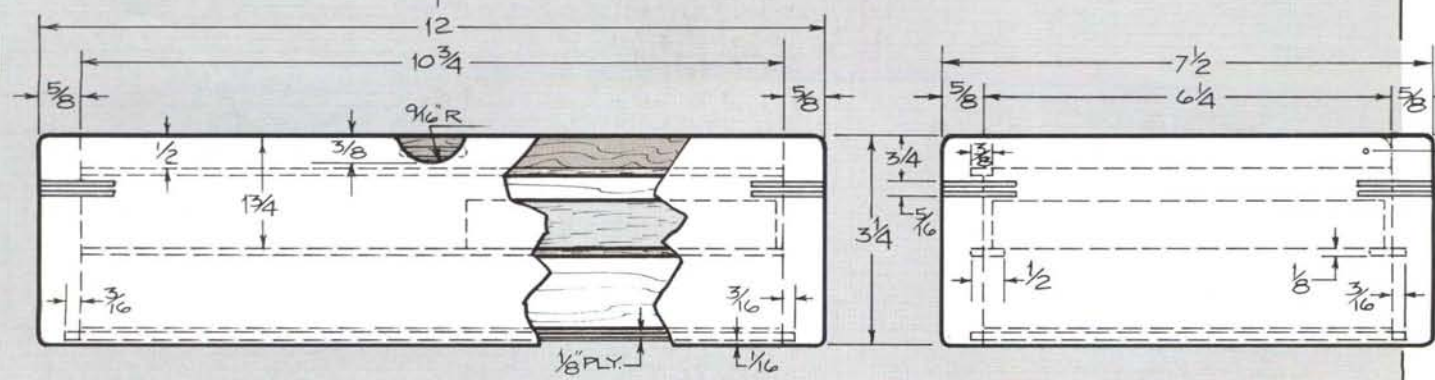
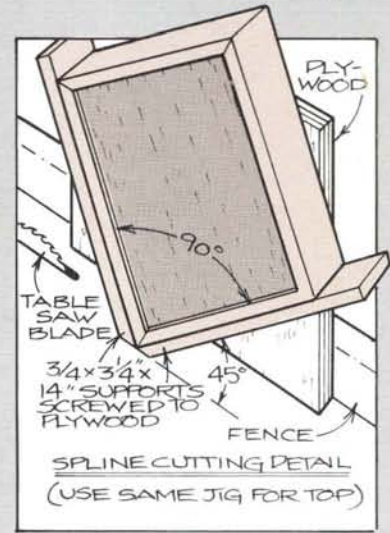
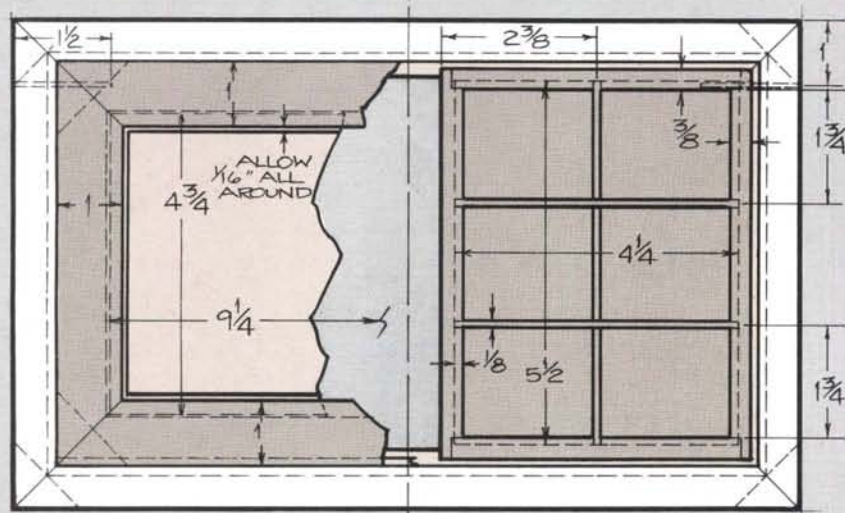
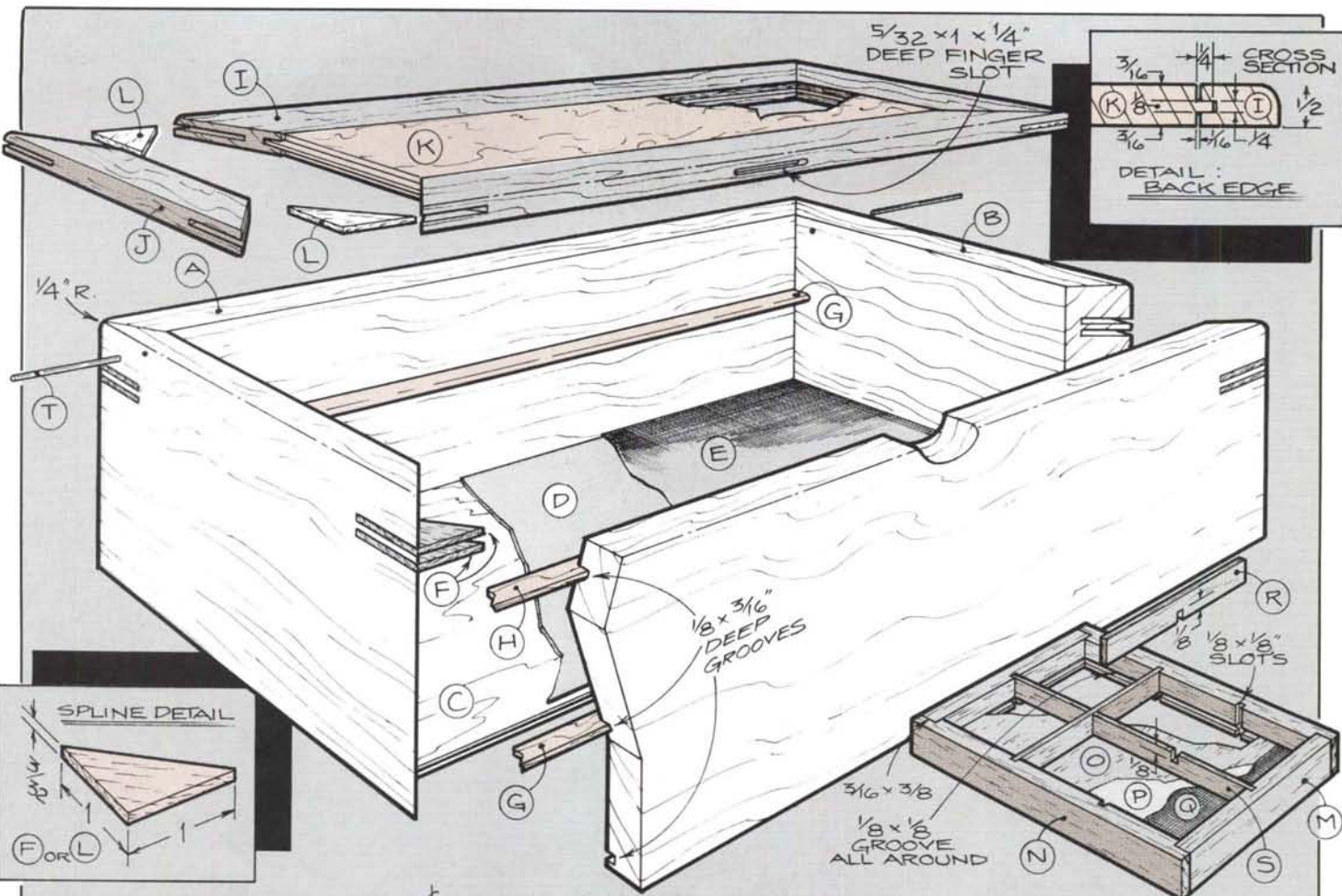
The tray front and back (M) and sides (N) are cut from  $\frac{3}{8}$  in. by  $\frac{3}{4}$  in. stock. Use the dado head to rabbet the ends of the sides, then cut the  $\frac{1}{8}$  in. by  $\frac{1}{8}$  in. bottom groove and divider slots in these parts. After cutting the tray bottom (O) to size from  $\frac{1}{8}$  in. thick plywood, and making short and long divider parts from  $\frac{1}{8}$  in. by  $\frac{1}{4}$  in. stock, assemble the tray front, back and sides around the bottom.

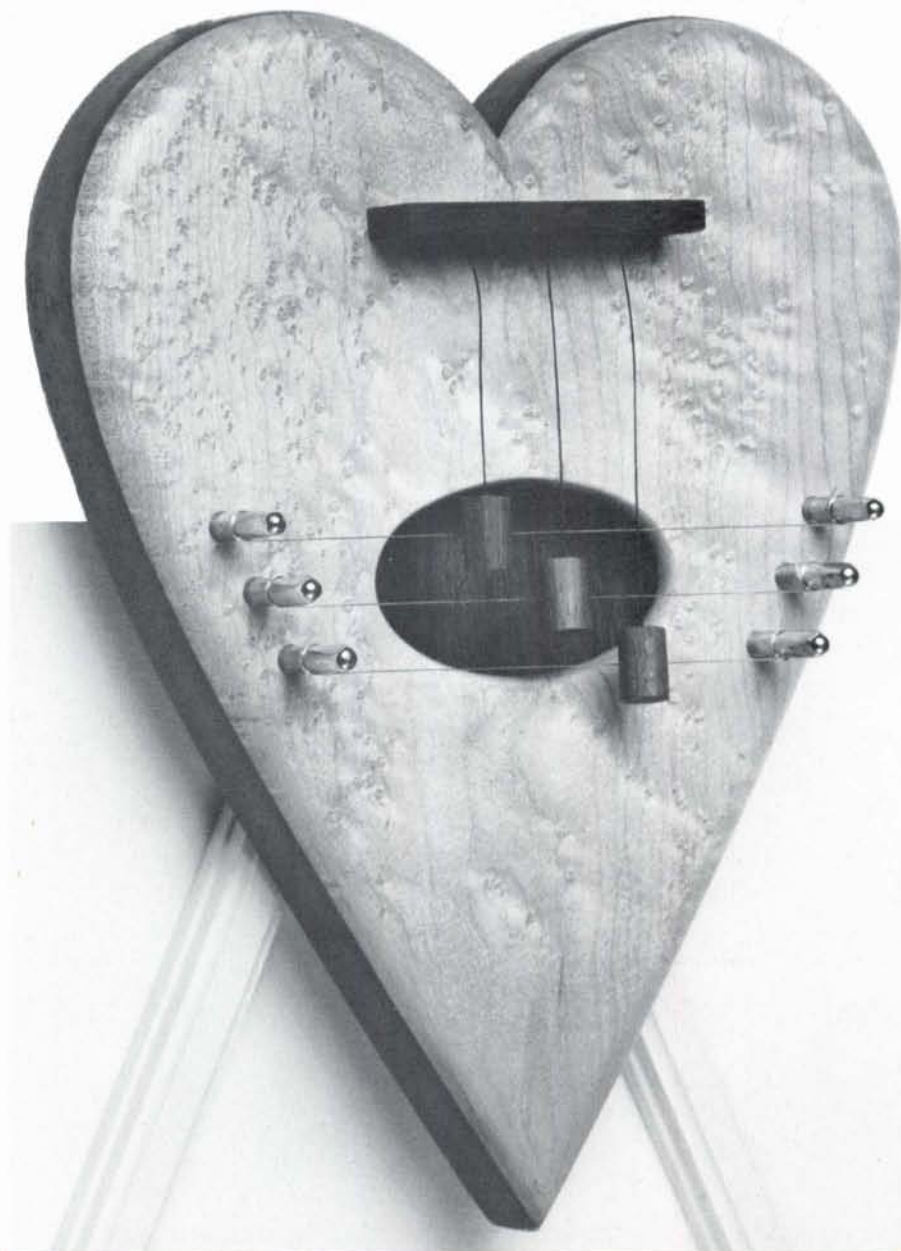
Now make the box and tray liners, consisting of velvet (E and Q) wrapped over cardboard (D and P).

After final sanding, all wood surfaces are treated with a generous application of penetrating oil. Let dry, rub out with 0000 steel wool, wipe on a final application of penetrating oil, and complete with a light protective coat of paste wax buffed to a soft satin sheen.

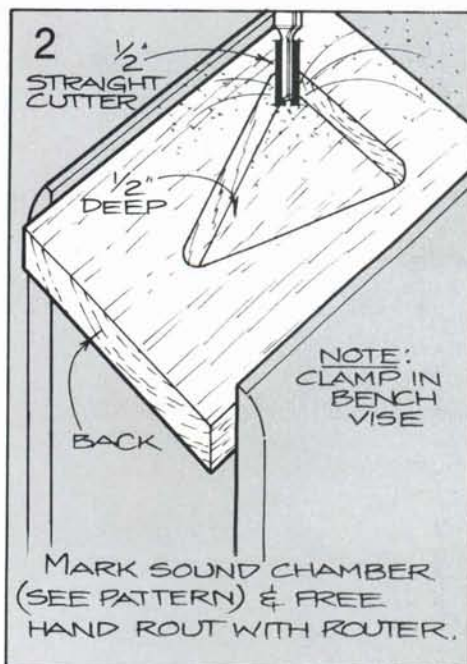
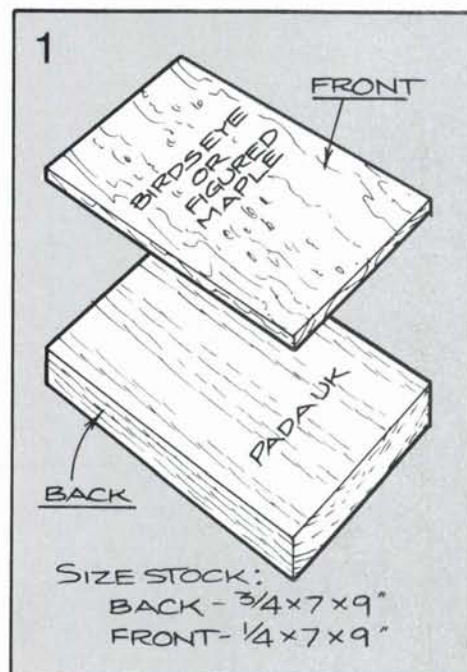
Wwj

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## Door Harp



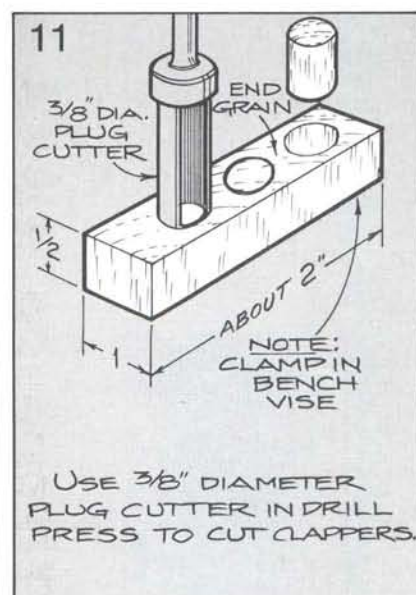
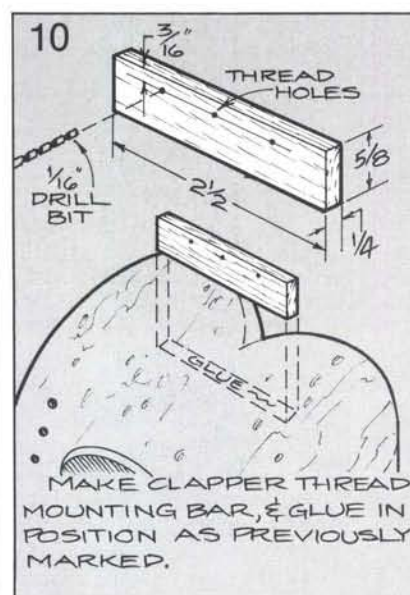
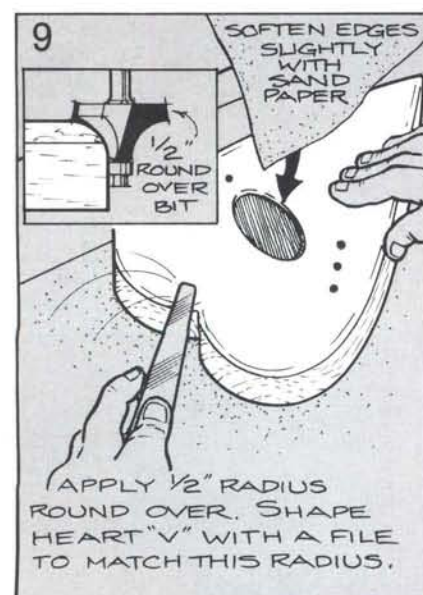
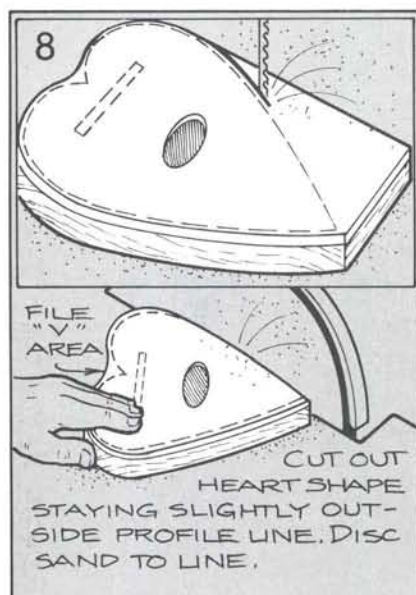
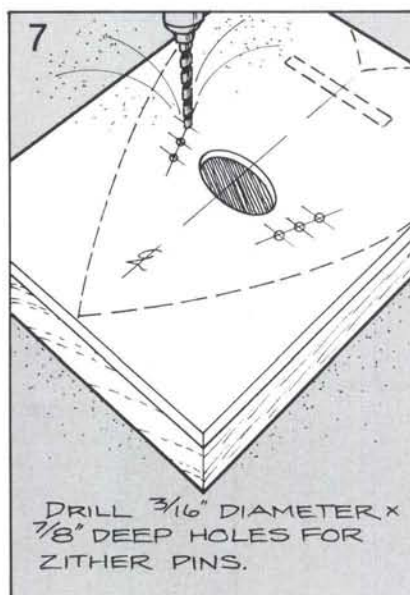
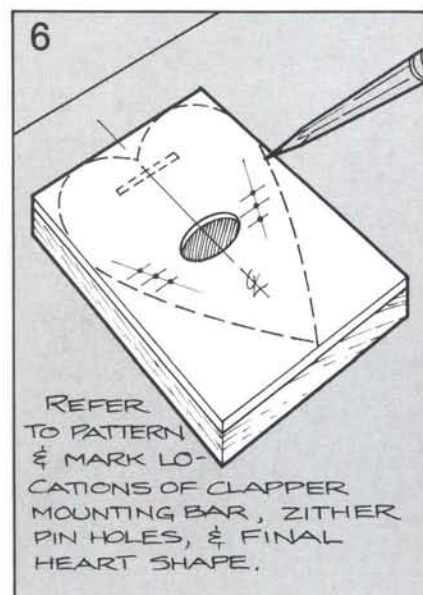
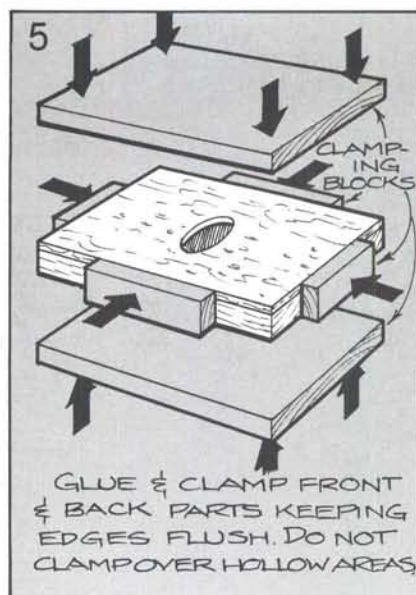
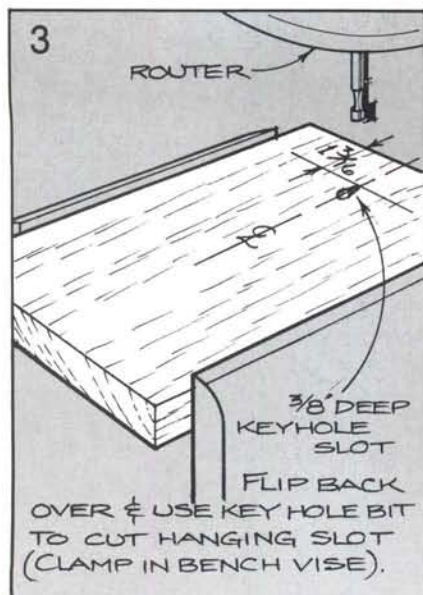
**H**ung on the inside of your front door, this melodious harp will welcome all who enter with a delicate serenade. The motion of the door agitates the clappers against the steel guitar strings, resulting in a brief random tune. Although the door harp is thought to be of Scandinavian origin, this little heart-shaped example will be at home anywhere.

One of the best things about this project is the ease with which it can be made. Simply follow the step-by-step instructions and illustrations. If you don't have padauk and bird's-eye maple, any number of attractive combinations of wood will serve as well. Sections of 3/8 in. diameter dowel stock will work as clappers if you don't have a plug cutter.

We've seen many different door harp designs, some decorated with exotic woods and intricate inlay work, and others simply painted or stained. Door harps make great gifts, and are an opportunity for even the beginner to create something that not only looks good, but also sounds good.

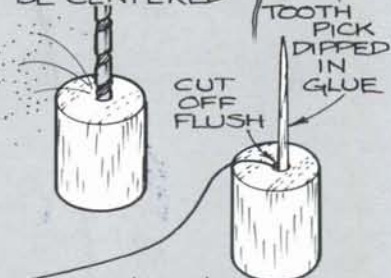
All the hardware needed for this project, including two guitar strings and the six chrome plated zither tuning pins are available in kit form from Folkcraft Instruments, Box 807W, Winsted, CT 06098. Order kit no. 11001. Cost is \$3.50 per kit, postage and handling included. The two guitar strings allow for extra length should the door harp strings ever need replacing.

(continued on next page)



12

NOTE:  
DRILL HOLE  
SLIGHTLY OFF-  
CENTER SO  
THREAD WILL  
BE CENTERED



DRILL  $\frac{1}{16}$ "  $\times$   $\frac{1}{4}$ " DEEP  
THREAD MOUNTING HOLES,  $\frac{1}{8}$ "  
SAND SMOOTH. MOUNT  
THREAD WITH TOOTHPICK.

13

1. INSERT  
LEFT SIDE  
ZITHER PINS  
FULL DEPTH,  
BACK OFF 2  
TURNS.

2. INSERT  
RIGHT SIDE  
ZITHER PINS  
FULL DEPTH,  
WRAP WIRE  
CLOCKWISE.

3. ATTACH WIRES TO LEFT  
SIDE ZITHER PINS & DRAW  
UP UNTIL TIGHT, ABT.  $1\frac{1}{2}$   
TURNS.

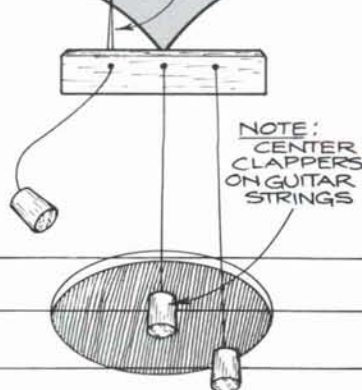
4. ADJUST PINS  
AS NECESSARY  
FOR DESIRE-  
ABLE  
SOUND.

NOTE:  
USE  
.30 M.M.  
(.012 D.)  
GUITAR  
STRINGS

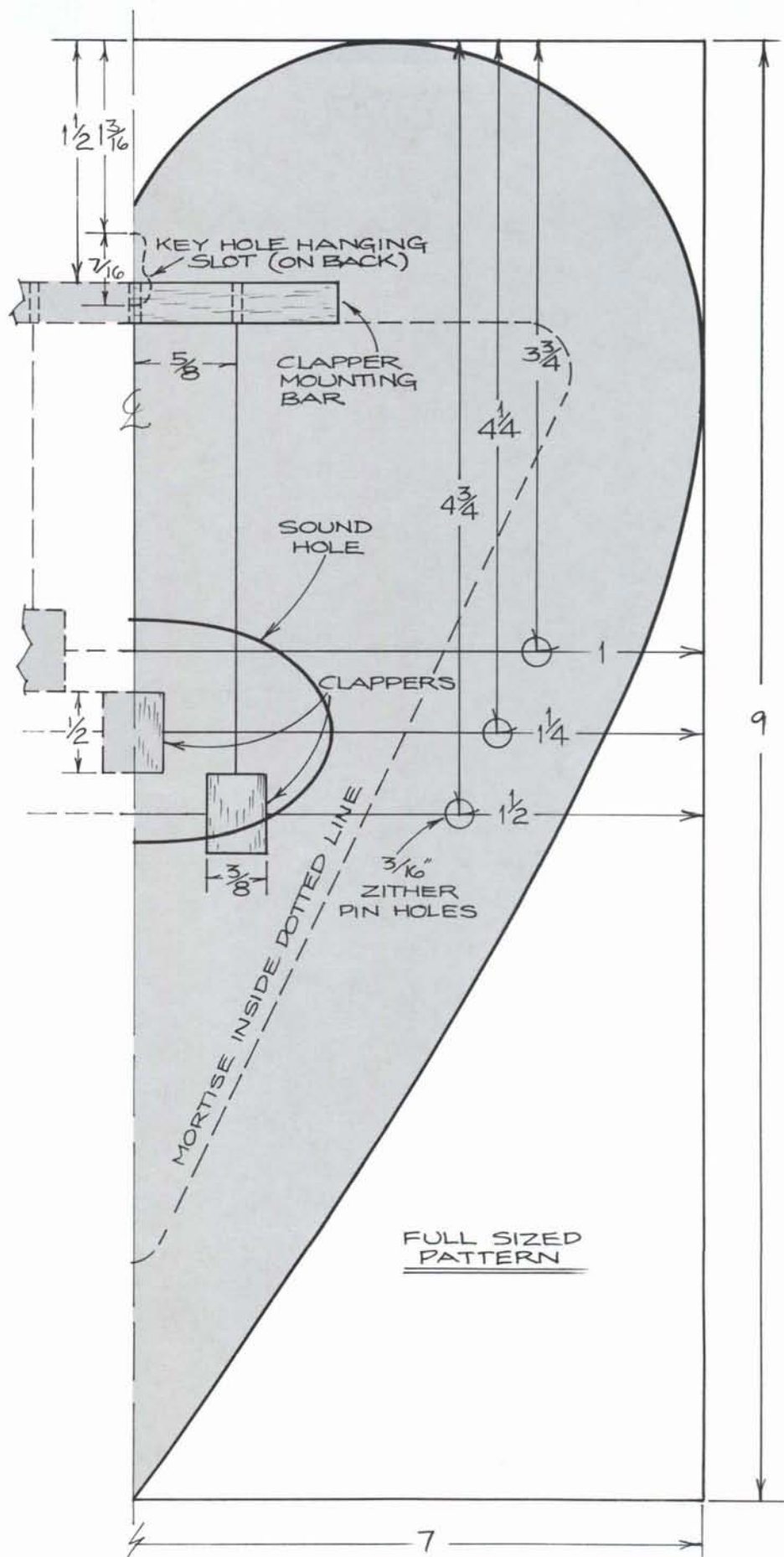
MOUNT ZITHER PINS &  
GUITAR STRINGS.

14

TOOTH  
PICK



USE TOOTHPICKS DIPPED  
IN GLUE TO MOUNT CLAP-  
PER STRINGS.



# Toy Firetruck



Designed and built by Clare Maginley

A well-built toy like this can provide hours of fun for an imaginative child. Such toys take a pretty good beating though, so it's best to use a hardwood. This one is made from maple (except for a cherry bumper) so it will stand up to plenty of wear and tear.

Begin by cutting the undercarriage (A) to length and width from  $\frac{3}{4}$  in. thick stock. At this point it should be given a good final sanding because later on, after other parts are added, it won't be as easy to thoroughly smooth. Do the top, bottom, and all four edges.

The lower cab (B) and the upper cab (C) are cut from  $1\frac{3}{4}$  in. thick and  $\frac{3}{4}$  in. thick stock respectively. Allow a little extra on the length and width when you cut them to size. Apply glue to the mating surfaces of the two parts (see exploded view) and clamp firmly with two or three C-clamps. The upper and lower cab assembly can now be glued to the undercarriage.

Make the two blocks (D) next, cutting them to the dimensions shown before boring  $\frac{1}{2}$  in. deep holes to accept the pins (N). These pins can be turned on a lathe (see detail) or ordered from Craftsman Wood Service Co.,

## Bill of Materials (all dimensions actual)

| Part | Description       | Size                                                  | No. Req'd. |
|------|-------------------|-------------------------------------------------------|------------|
| A    | Undercarriage     | $\frac{3}{4} \times 3 \times 12$                      | 1          |
| B    | Lower Cab         | $1\frac{3}{4} \times 4 \times 3$                      | 1          |
| C    | Upper Cab         | $\frac{3}{4} \times 4 \times 3$                       | 1          |
| D    | Block             | $1 \times 1\frac{1}{2} \times 3$                      | 2          |
| E    | Axle Holder       | (see detail)                                          | 3          |
| F    | Main Ladder Base  | $\frac{3}{4} \times 4 \times 2\frac{1}{2}$            | 1          |
| G    | Main Ladder       |                                                       |            |
|      | Washer            | $1\frac{1}{2}$ dia. $\times \frac{1}{16}$ thick       | 1          |
| H    | Main Ladder       |                                                       |            |
|      | Wheel             | 2 dia. $\times \frac{7}{16}$ thick                    | 1          |
| I    | Main Ladder Block | $1 \times 1 \times 1$                                 | 1          |
| J    | Main Ladder Post  | $\frac{1}{4} \times \frac{3}{8} \times 15\frac{1}{2}$ | 2          |
| K    | Main Ladder Rung  | $\frac{1}{8}$ dia. $\times 1\frac{1}{4}$ long         | 22         |
| L    | Side Ladder Post  | $\frac{1}{4} \times \frac{3}{8} \times 9$             | 2/ladder   |
| M    | Side Ladder Rung  | $\frac{1}{8}$ dia. $\times 1\frac{1}{4}$ long         | 14/ladder  |
| N    | Pin               | (see detail)                                          | 8          |
| O    | Headlight         | upholstery tack                                       | 4          |
| P    | Light             | (see detail)                                          | 1          |
| Q    | Axle              | $\frac{1}{4}$ dia. steel rod                          | 3          |
| R    | Wheel Washer      | $1\frac{1}{2}$ dia. $\times \frac{1}{16}$ thick       | 6          |
| S    | Wheel             | 2 dia. $\times \frac{7}{16}$ thick                    | 10         |
| T    | Push Nut          | $\frac{1}{4}$                                         | 6          |
| U    | Bumper            | $\frac{3}{8} \times \frac{3}{4} \times 4\frac{1}{2}$  | 1          |
| V    | Fog Light         | (see detail)                                          | 2          |

1735 West Cortland Court, Addison, IL 60101. Glue the blocks to the undercarriage, then add the pins.

Now cut the three axle holders (E) to the dimensions shown in the detail. Use a drill press to bore the  $\frac{1}{16}$  in. diameter hole before gluing to the underside of the carriage.

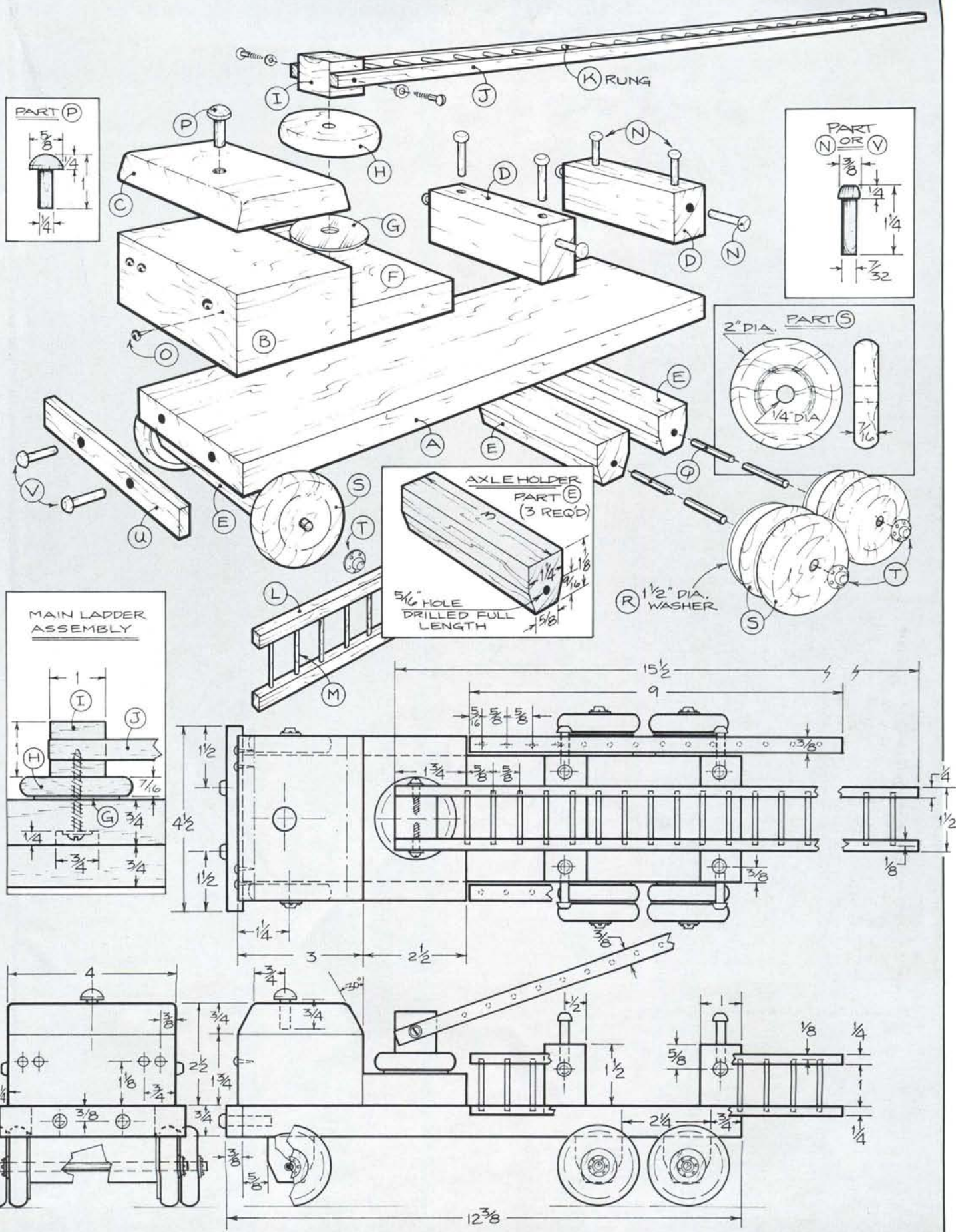
The axles (Q) are made from  $\frac{1}{4}$  in. diameter steel rod. The 2 in. diameter by  $\frac{7}{16}$  in. thick wheels (S) can be turned to the dimensions shown or ordered from Craftsman Wood Service. (The same wheel will also be used later on for part H). Note that the wheels are held to the rod with  $\frac{1}{4}$  in. push nuts (T), an item that can be found at most hardware stores. Simply tap the push nuts in place with a hammer. The  $1\frac{1}{2}$  in. diameter by  $\frac{1}{16}$  in. thick washers (R) serve as spacers. If you prefer though, use  $\frac{1}{4}$  in. diameter dowel rod and glue the wheels to the rod.

Make the main ladder base (F) from  $\frac{3}{4}$  in. thick stock cut to 4 in. wide by  $2\frac{1}{2}$  in. long. Mark the centerpoint of the underside and bore a  $\frac{1}{2}$  in. diameter pilot hole all the way through to accept a  $1\frac{1}{4}$  in. long by no. 8 roundhead wood screw and washer (G). Now use a Forstner bit to counterbore a  $\frac{3}{4}$  in. diameter by  $\frac{1}{4}$  in. deep hole as shown in the main ladder assembly detail.

The 2 in. diameter wheels sold by Craftsman Wood Service have a contoured side and a flat side. Glue and clamp the main ladder block (I) to the flat side of the main ladder wheel (H). For maximum glue strength, keep the grain running in the same direction for both parts. When dry, drill a pilot hole for the wood screw (see main ladder assembly detail) and assemble as shown. To firmly anchor the screw, we added a spot of epoxy glue to the pilot hole before assembly.

The main ladder (parts J and K) and the two side ladders (parts L and M) can now be made. Use  $\frac{1}{8}$  in. diameter dowel stock for the rungs. The main ladder is joined to part I with a pair of  $\frac{3}{4}$  in. long by no. 10 roundhead wood screws and washers as shown. The side ladders simply hook on the pins.

The light (P) can be turned to the dimensions shown or, as a substitute, use a  $\frac{3}{8}$  in. diameter by  $1\frac{1}{4}$  in. long dowel pin glued into a  $\frac{1}{4}$  in. deep hole. We used upholstery tacks for the headlights (O), but four  $\frac{1}{4}$  in. diameter by  $\frac{1}{8}$  in. deep holes will serve just as well. The addition of the bumper (U) and fog light pins (V) completes the assembly. No final finish is needed.



by Ellen Brown

## Canada Goose Mobile

**H**ang this handsome bird from the ceiling, then pull the weight and stand back to watch the graceful up-and-down movement of the wings. It's a novel project, one that can make an interesting addition to a teenager's room, den, or recreation room.

The entire project is made from a 9/4 in. wide by 36 in. long piece of 1/4 in. thick solid maple. If you don't have a thickness planer or can't get 1/4 in. thick stock locally, you can order a 1/4 in. by 9/4 in. by 36 in. piece of maple from Constantine, 2050 Eastchester Road, Bronx, NY 10461. The current price is \$13.25 each plus \$3.15 postage and handling.

Using the cutting diagram as a layout guide, transfer the wing and body profiles from the grid pattern to the stock. To get a clean cut, use a scroll saw or a narrow, fine-tooth band saw blade. A file and some sanding should be all that's needed to smooth any rough sawn edges. The wing will flex with less resistance if the end that contacts the body is rounded slightly.

Next, mark the location of the seventeen 1/16 in. diameter fishing line holes (six in each wing and five in the body), then bore them out. Also, at this time, cut a piece of 1/4 in. dowel stock to a 9 1/2 in. length and bore a 1/16 in. hole at each end.

We used clear monofilament fishing line to hang the mobile. Start with about a 40 in. length and tie an end to one of the pairs of wing holes. Run the other end of the line through one of the dowel holes so that you have about 20 in. between the wing and dowel. Tie a knot at the dowel hole, then run the end of the line down to the other pair of wing holes and add a third and final knot. Repeat the procedure for the other wing.

For the upper line, start with about a 20 in. length and tie one end to the dowel. Now loop the line around a metal key ring and tie the other end to the dowel. Keep in mind, though, that there is no hard and fast rule that dictates how long the lines must be. The bird will "fly" as long as there are at least 12 in. between the wings and the dowel.

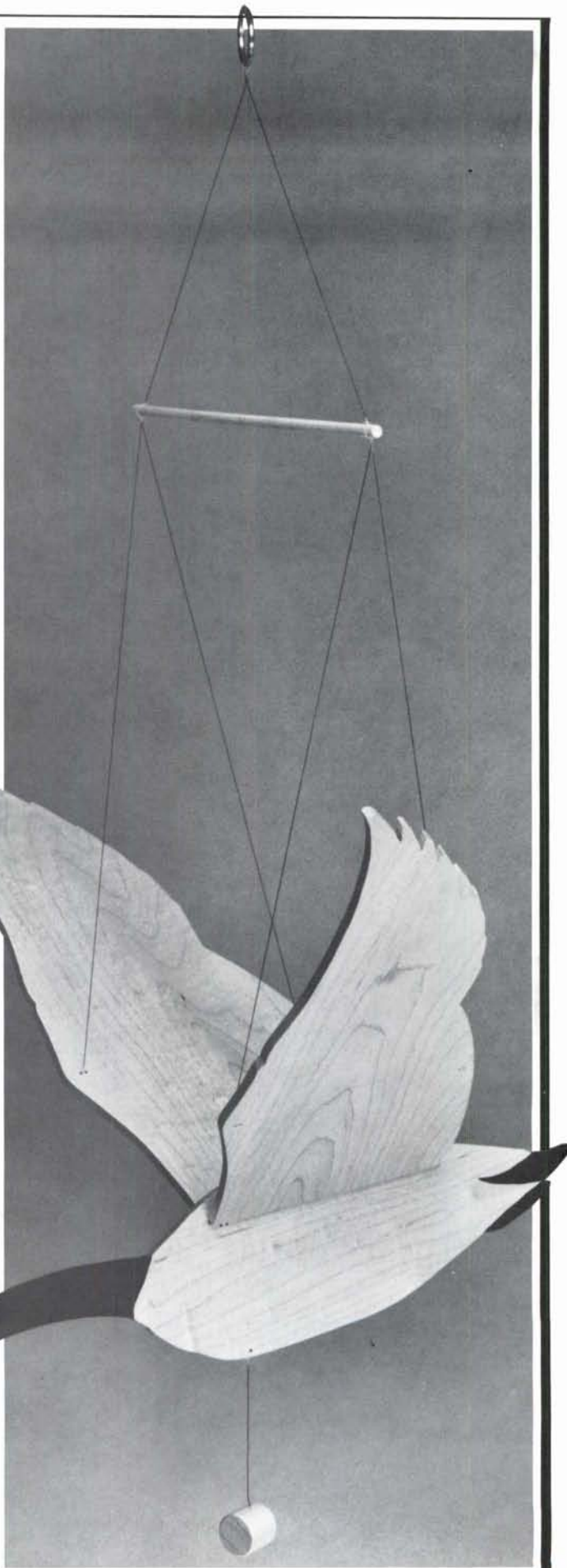
To attach the wings, tie a loop through each pair of holes in the body, then tie the wings to the loops. When tying the wing knots, try to allow about 1/8 in. clearance between the wing and the body. This clearance will provide room for the wings to move with a minimum of interference.

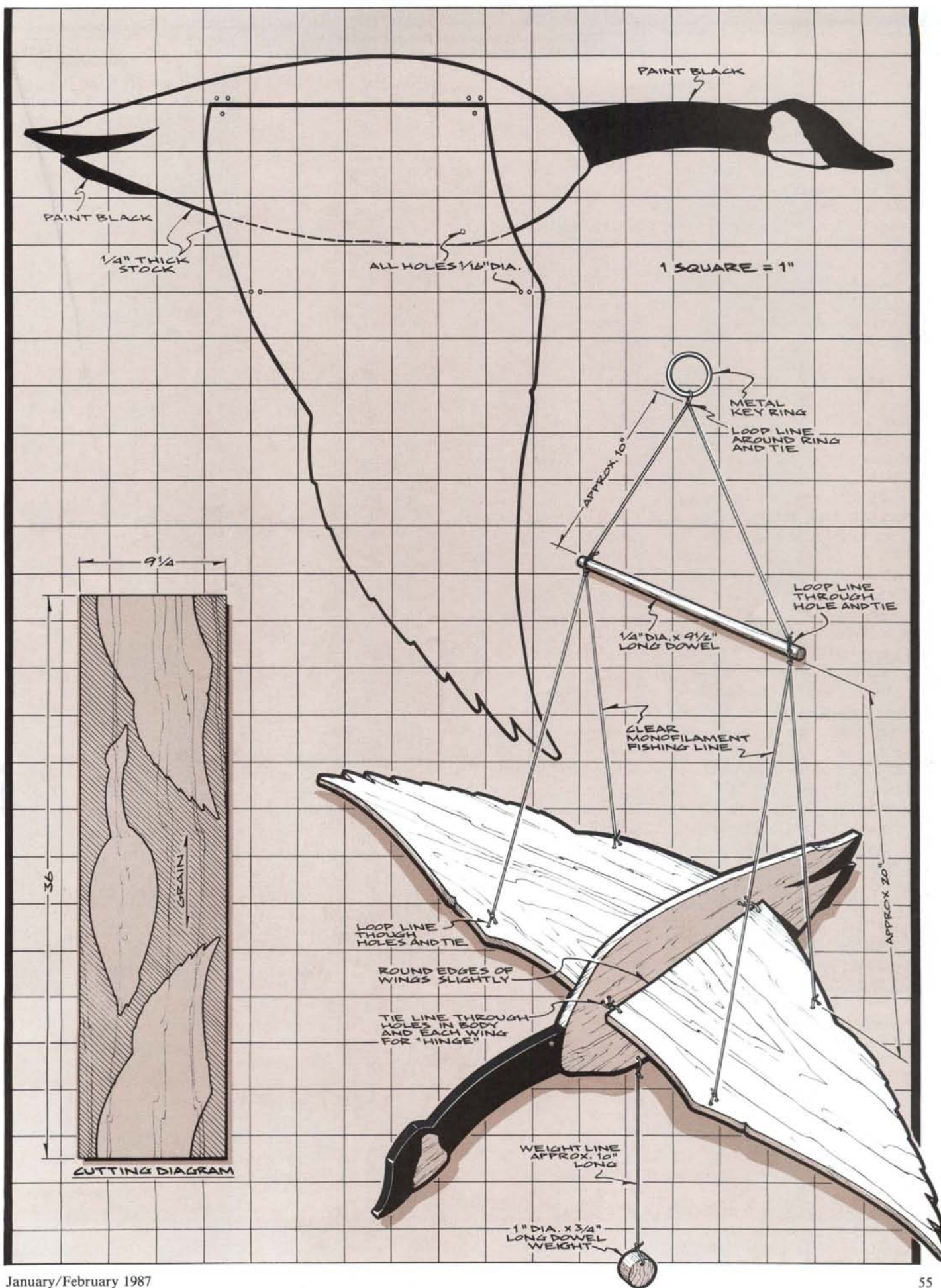
The bird is now ready for balancing. A short length of 1 in. diameter dowel stock, suspended by a fishing line from the body, serves as a counterbalance. When at rest, we wanted the bird's wings to be slightly in the up position, and after a bit of experimentation, we determined that a 1 in. diameter by 3/4 in. long dowel provided the proper weight. More weight (a longer dowel) will make the wings higher when the bird is at rest. Less weight (a shorter dowel) and the wings start to flatten out.

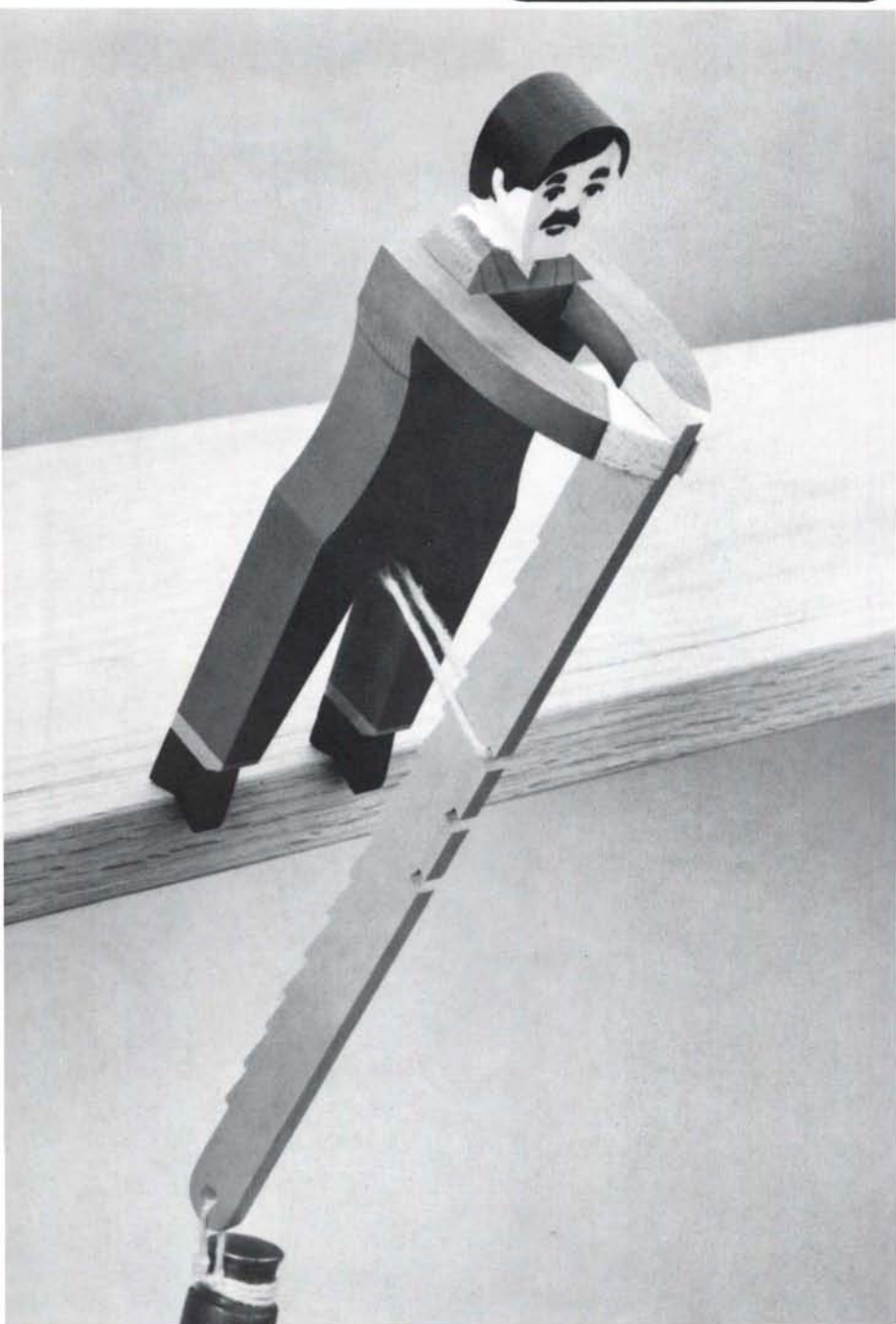
Since every bird will have some slight variation in balance, you'll no doubt have to do some of your own experimenting. Once you get the correct weight, hang the dowel from about a 10 in. length of fishing line as shown. If everything looks okay, give the weight a pull to check the goose for airworthiness.

The neck, head, and tail can now be painted with a coat of black enamel paint. Once dry, a couple of coats of penetrating oil will provide a good final finish.

Wwj







### Balancing Sawyer Folk Toy

**T**his old-time toy has been entertaining kids for generations. Placed on the edge of a sharp-cornered table, this fellow will lean out at an angle that seems to defy gravity. And if given a slight push, he'll start to rock back and forth, looking just a bit like an old-time sawyer hard at work.

To make the body, trace the full-size pattern on  $\frac{3}{4}$  in. thick stock. Use a band or scroll saw to cut out the profile, then smooth the edges with a file and sandpaper. The two arms and the saw are cut out in the same manner, but use  $\frac{3}{8}$  in. and  $\frac{3}{16}$  in. thick stock respectively. Bore a  $\frac{1}{8}$  in. diameter hole at the bottom of the saw as shown.

Glue and clamp the arms to the body and, at the same time, assemble the saw by driving a 1 in. long brad as shown in the exploded view. Do not glue the saw in place as it must be free to pivot.

Before painting, final sand all surfaces, then use the full-size pattern to trace the outlines of the face, shirt, overalls, and boots. We used one coat of enamel paint for each color. The boots and face (hair, eyebrows, eyes, mustache, and mouth) are painted black, the shirt is red, the overalls are blue, and the saw is gray.

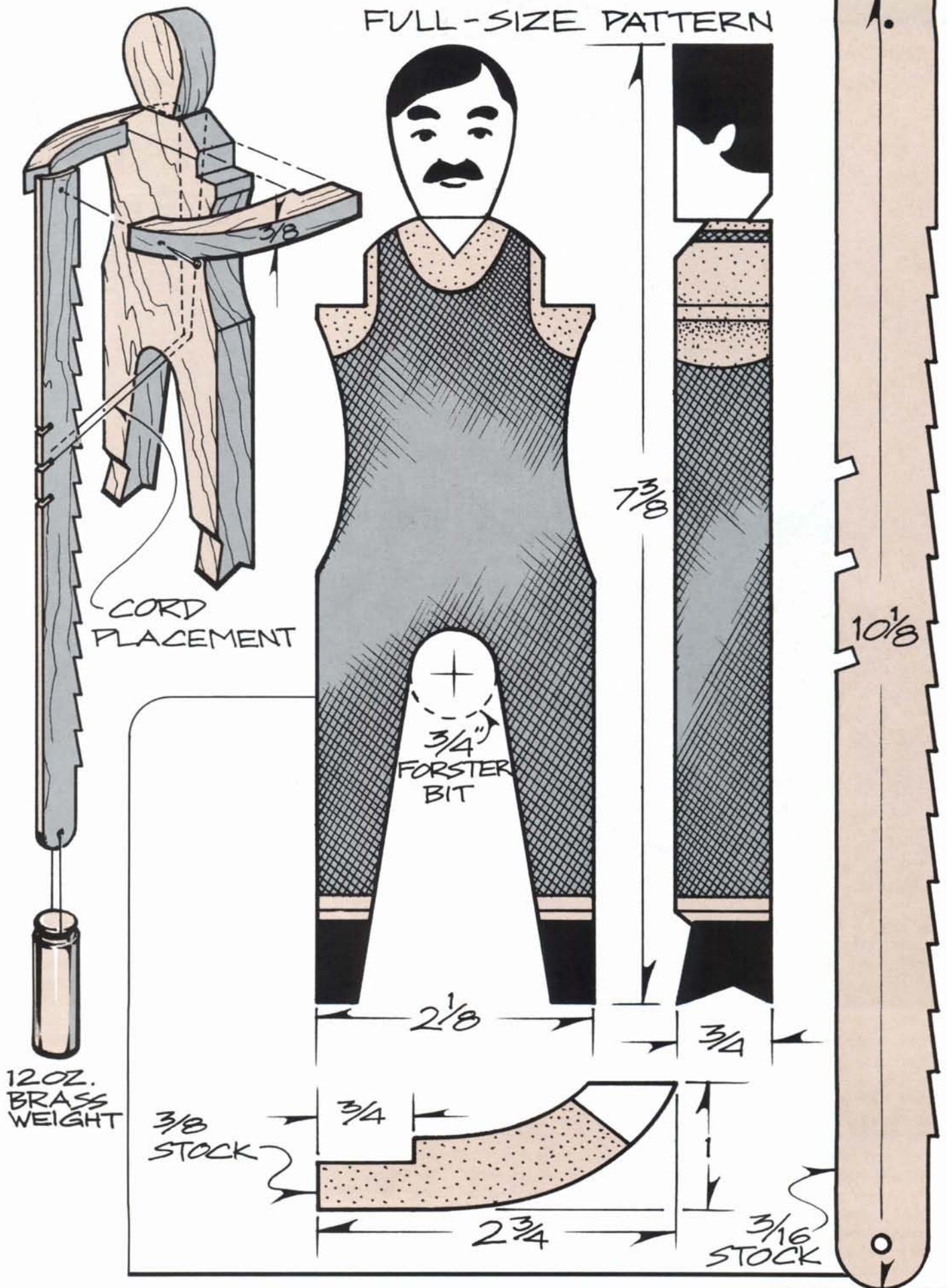
To balance the sawyer you'll need to be able to adjust the angle of the saw in relation to the body. This adjustment is provided by a looped cord that can fit into any one of the three notches cut in the saw. As shown in the exploded view, the loop starts at one of the saw notches, then runs between the legs, up the back, and then simply hooks around the neck.

To counterbalance the sawyer you'll need to hang a weight from the end of the saw as shown. We found that about 12 ounces was needed for ours, but it could be a bit more or less depending on the saw angle. Our weight is a 4 in. length of  $\frac{7}{8}$  in. diameter brass rod, but anything can be used.

Give it a test by placing the sawyer on the edge of a table (it will work best on tables with relatively sharp edges) and setting it in motion with a slight push. You may need to do a little experimenting to get it balanced just right, either by altering the weight or by shifting the loop to a higher or lower notch.

W&J

# FULL-SIZE PATTERN



# Early American Style End Table



**T**his attractive Early American style table makes a useful side piece to your favorite chair. The upper shelf is at a convenient height for a reading lamp, with a considerable amount of additional space for books, magazines, and other odds and ends. Except for the plywood drawer bottom, all parts are made from solid pine stock.

The four legs (A) can be made first. Rip 2 in. stock (which measures  $1\frac{3}{4}$  in. thick) to  $1\frac{1}{2}$  in. square, then cut to 15 $\frac{1}{4}$  in. lengths. Referring to the side and front views, note that the legs are tapered only on the two inside edges, and that the taper starts 3 $\frac{1}{2}$  in. from the top end and narrows to 1 in. square at the bottom. If you have one, a table saw tapering jig will come in handy here. If not, lay out and mark the tapers on each leg, then hand plane the stock to the marked line.

Next, lay out and mark the location

of the  $\frac{3}{8}$  in. wide by 2 $\frac{1}{2}$  in. long by  $\frac{1}{16}$  in. deep apron mortises at the top of each leg (see apron tenon detail). They can be chopped out by hand using a sharp chisel or, if you prefer, they can be cut on the router table using a  $\frac{3}{8}$  in. diameter straight bit. If you use the router though, you won't be able to cut the full  $\frac{1}{16}$  in. depth in one pass. You'll get a smoother cut with less strain on the motor if you make several cuts, each one removing no more than  $\frac{3}{16}$  in. of material. Once cut, use a chisel to square the corners.

To make the two end aprons (B) and two side aprons (C), cut  $\frac{3}{4}$  in. thick stock to the length and width shown in the bill of materials. The tenons on each end are best cut using the table saw equipped with a dado head cutter, although repeated passes with a regular saw blade will also work (see tenon and cleat detail). Carefully lay out and

mark each tenon, then raise the dado head cutter or saw blade to a height of  $\frac{3}{16}$  in. Next, using the miter gauge, pass the stock over the cutter to establish the  $\frac{7}{8}$  in. tenon length. A second pass with the dado head will clean up the remaining material; several more passes will be needed if a regular saw blade is used.

Now flip the stock over and repeat the procedure on the opposite side. Once both sides are cut, raise the dado head or saw blade to a height of  $\frac{1}{2}$  in. and repeat the process on the bottom edge. Finally, to complete work on the tenon, use the table saw to bevel the end of the tenon to 45 degrees.

Keep in mind that the tenon thickness is regulated by the height of the cutter or saw blade. Before starting it's always a good idea to make some trial cuts in scrap stock to get the tenon thickness just right.



Referring to the side and front views, transfer the apron grid patterns to the stock before cutting out with a jig or saber saw. When cutting, stay just outside the marked line, then use a rasp and sandpaper to smooth the edge exactly to the line.

The legs and aprons can now be assembled. Final sand thoroughly, then add a thin coat of glue to the tenons and mortises. Assemble as shown using bar or pipe clamps to apply light pressure to the joints. Check for squareness and, if all looks okay, set aside to dry thoroughly.

The two cleats (D) can now be made. Note that  $\frac{3}{4}$  in. square stock is cut to fit between the side aprons, then notched on each end (see tenon and cleat detail) to fit around the legs. Three holes are bored in each cleat: a center hole and a pair of slotted holes located about  $1\frac{1}{4}$  in. from each end. Later, when the top (E) is attached to the base (parts A, B, and C), the slotted holes will allow the top to expand and contract with seasonal changes in humidity.

To make the top (E) you'll need to edge-glue two or three  $\frac{3}{4}$  in. thick

| Bill of Materials<br>(all dimensions actual) |               |                                                         |            |
|----------------------------------------------|---------------|---------------------------------------------------------|------------|
| Part                                         | Description   | Size                                                    | No. Req'd. |
| A                                            | Leg           | $1\frac{1}{2} \times 1\frac{1}{2} \times 15\frac{1}{4}$ | 4          |
| B                                            | End Apron     | $\frac{3}{4} \times 3 \times 15\frac{1}{4}$ *           | 2          |
| C                                            | Side Apron    | $\frac{3}{4} \times 3 \times 24\frac{3}{4}$ *           | 2          |
| D                                            | Cleat         | $\frac{3}{4} \times \frac{3}{4} \times 14\frac{1}{4}$   | 2          |
| E                                            | Top           | $\frac{3}{4} \times 17 \times 26\frac{1}{2}$            | 1          |
| F                                            | Side          | $\frac{3}{4} \times 9\frac{1}{4} \times 16\frac{1}{2}$  | 2          |
| G                                            | Back          | $\frac{3}{4} \times 9\frac{1}{4} \times 15$             | 1          |
| H                                            | Lower Shelf   | $\frac{3}{4} \times 9\frac{1}{4} \times 15\frac{1}{2}$  | 1          |
| I                                            | Upper Shelf   | $\frac{3}{4} \times 10\frac{1}{4} \times 17$            | 1          |
| J                                            | Side Gallery  | $\frac{3}{4} \times 2 \times 10$                        | 2          |
| K                                            | Back Gallery  | $\frac{3}{4} \times 3 \times 15$                        | 1          |
| L                                            | Drawer Front  | $\frac{3}{4} \times 3 \times 15$                        | 1          |
| M                                            | Drawer Side   | $\frac{1}{2} \times 3 \times 9\frac{1}{4}$              | 2          |
| N                                            | Drawer Back   | $\frac{1}{2} \times 3 \times 14\frac{1}{2}$             | 1          |
| O                                            | Drawer Bottom | $\frac{1}{4} \times 14\frac{1}{2} \times 8\frac{3}{4}$  | 1          |
| P                                            | Drawer Knob   | $\frac{3}{4}$ diameter                                  | 2          |

\*Length includes tenons.

boards. It's best to cut the boards so that the glued-up stock will be slightly wider and longer than necessary. Use at least three pipe clamps to apply pressure to the joint. When dry, remove the clamps and trim the stock to 17 in. wide by  $26\frac{1}{2}$  in. long.

Each side (F) is made from a piece of 1 by 10 stock (which actually measures  $\frac{3}{4}$  in. thick by  $9\frac{1}{4}$  in. wide) cut to a length of  $16\frac{1}{2}$  in. Once cut to overall length and width, refer to the side view and transfer the curved profile from the grid pattern to the stock. Also, at this time, lay out and mark the location of the  $\frac{3}{4}$  in. wide by  $\frac{1}{4}$  in. deep groove that is cut to accept the lower shelf. Use a router with an edge guide to cut the groove, stopping it  $\frac{3}{4}$  in. short of the front and back as shown. Use a chisel to square the corners. Next, use a band or saber saw to cut out the grid pattern profile. Sand the edges smooth.

Cut the back (G) and the lower shelf (H) to length and width from  $\frac{3}{4}$  in. thick stock. Since there is a stopped groove in each side, you'll need to cut a  $\frac{1}{4}$  in. by  $\frac{7}{8}$  in. notch in the front corners of the lower shelf. The notch is cut  $\frac{7}{8}$  in. long, rather than  $\frac{3}{4}$  in., to allow the shelf to expand and contract in width.

After final sanding, the back, lower shelf, and sides can be assembled. Since the lower shelf must be free to move in the side grooves, no glue is applied to the shelf ends. Also, since end grain glue joints have little strength, we did not bother to add glue to the ends of the back.

Assemble the back to the sides with  $1\frac{1}{2}$  in. long by number 8 flathead wood screws. Counterbore the holes about  $\frac{3}{16}$  in. to accept wood plugs. It's best to

cut the plugs slightly long so that they protrude just above the surface of the wood. Glue in place and, when dry, sand flush. The lower shelf is added in the same manner except the two end screw holes in the side are made slightly oversized to allow for movement of the shelf.

The upper shelf can now be cut to overall length and width from  $\frac{3}{4}$  in. thick stock. Since this part must also be free to expand and contract with seasonal changes in humidity, three slotted holes are cut on each end.

To make the side gallery (J) cut  $\frac{3}{4}$  in. thick stock to 2 in. wide by 10 in. long, then transfer the grid pattern shown in the side view. Cut out with the band or saber saw and sand smooth.

The back gallery (K), which is made from  $\frac{3}{4}$  in. thick stock that measures 3 in. wide, can be made next. Refer to the front view for the grid pattern profile. After final sanding, the side and back galleries can be assembled as shown.

Next, assemble the upper shelf and galleries. Note that the shelf is not glued in place. Instead it is secured between parts F and G and parts J and K. To do this, place part I in its proper position on parts G and F, then mark the centerpoint of the slotted hole. At each centerpoint bore a  $\frac{1}{4}$  in. diameter by  $\frac{3}{8}$  in. deep hole. At the same time, lay out, mark and drill identical holes in parts J.

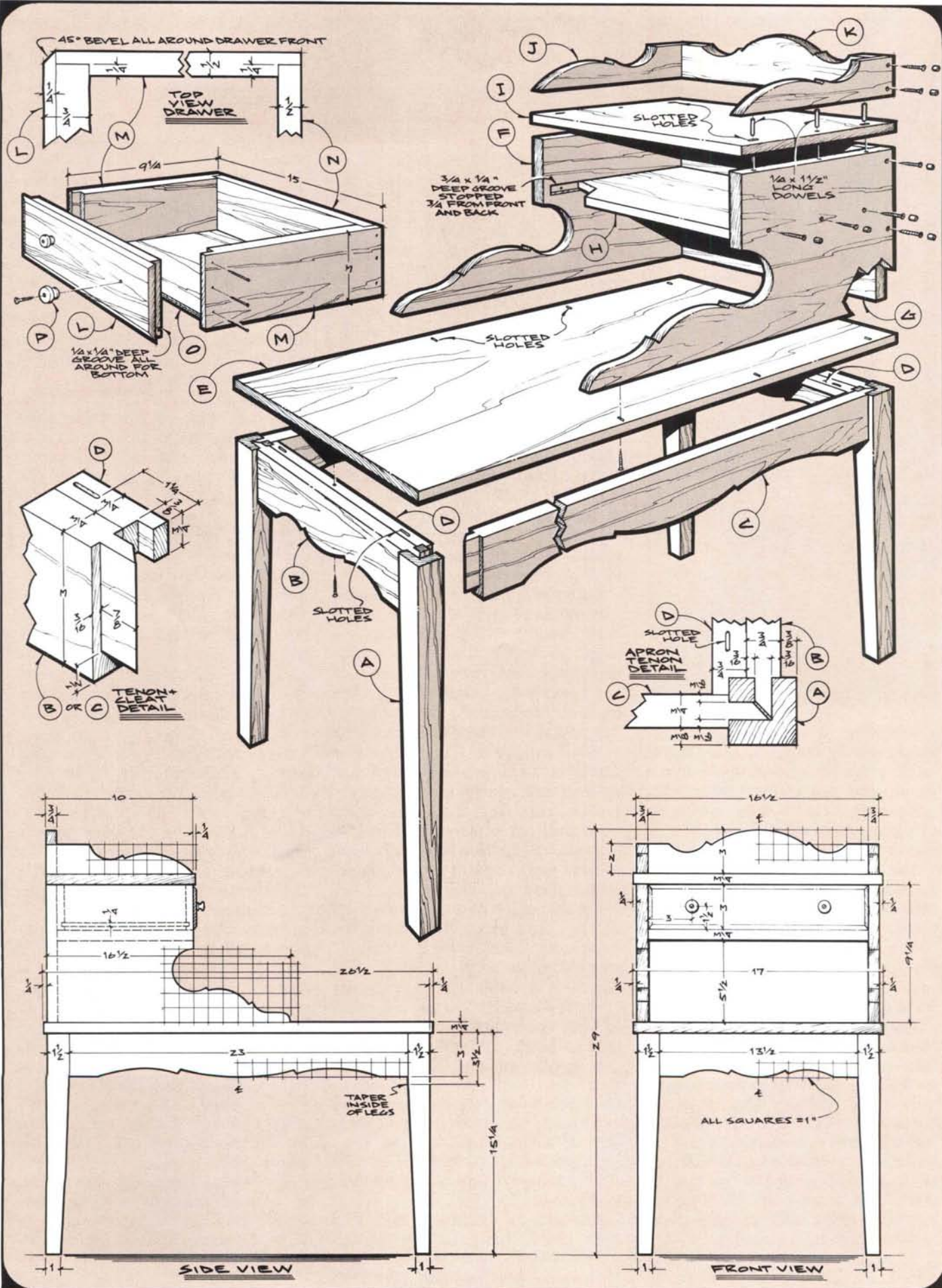
Now, with part I properly located, glue  $\frac{1}{4}$  in. diameter by  $1\frac{1}{2}$  in. long dowels in part F as shown. Avoid getting glue on part I as it must be free to move. Add glue to the dowel holes in parts J and to the end of the dowel pins, then mount the gallery assembly. Use clamps to provide pressure. Keep glue to a minimum to avoid squeeze-out.

After cutting the six slotted holes in part E, attach the upper part of the table by screwing up through part E and into part F. Part E can now be attached to the base by screwing through parts D and into part E.

The drawer is made next. Refer to the exploded view and the drawer top view, and make the drawer as shown. As mentioned earlier, we used  $\frac{1}{4}$  in. thick plywood for the bottom (O). Two porcelain knobs (P) are used for drawer pulls.

Final sand all parts and stain to suit. We used two coats of Minwax's Maple Wood Finish. Once dry, two coats of Minwax's Antique Oil were added as a final finish.

(continued on next page)

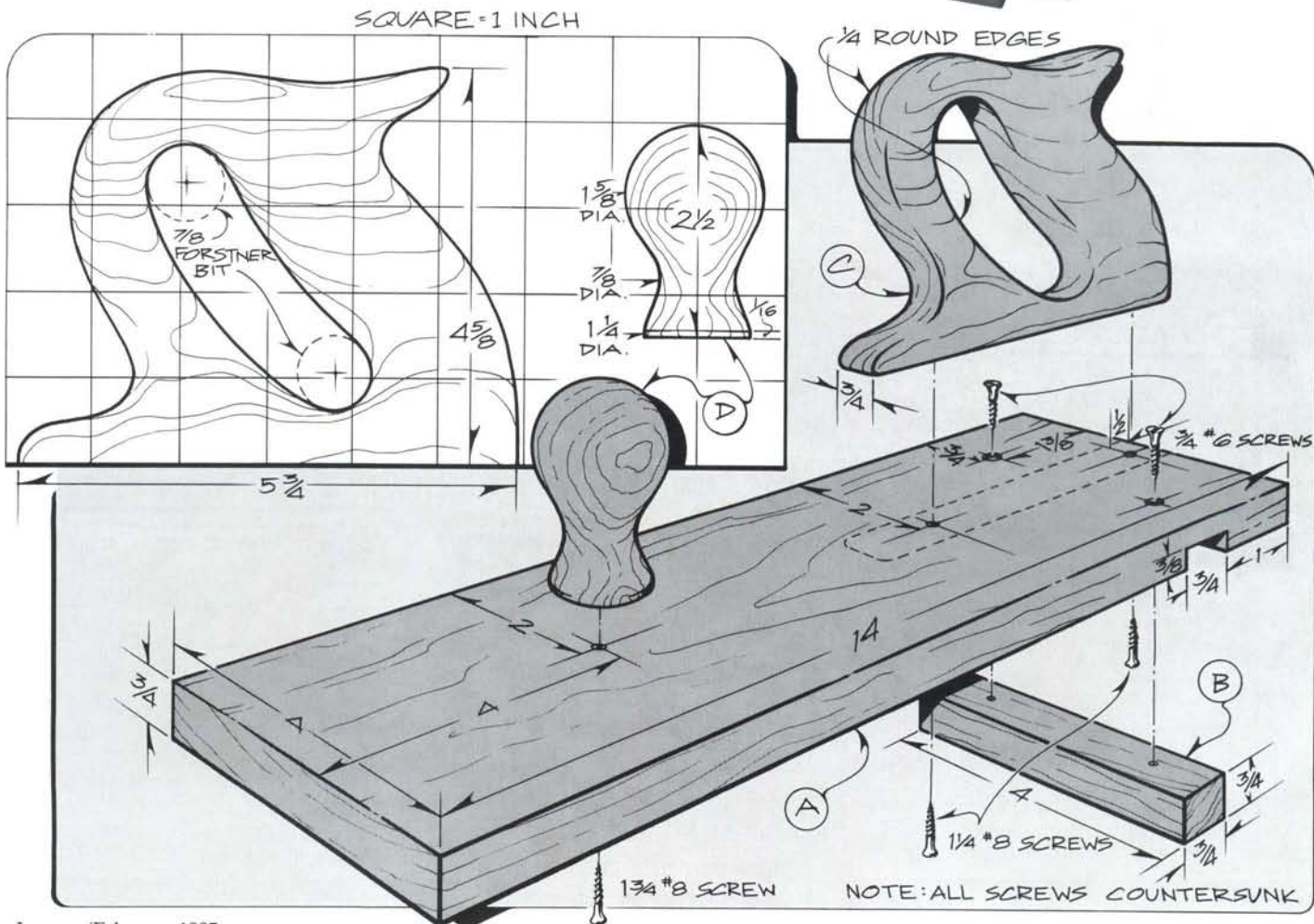
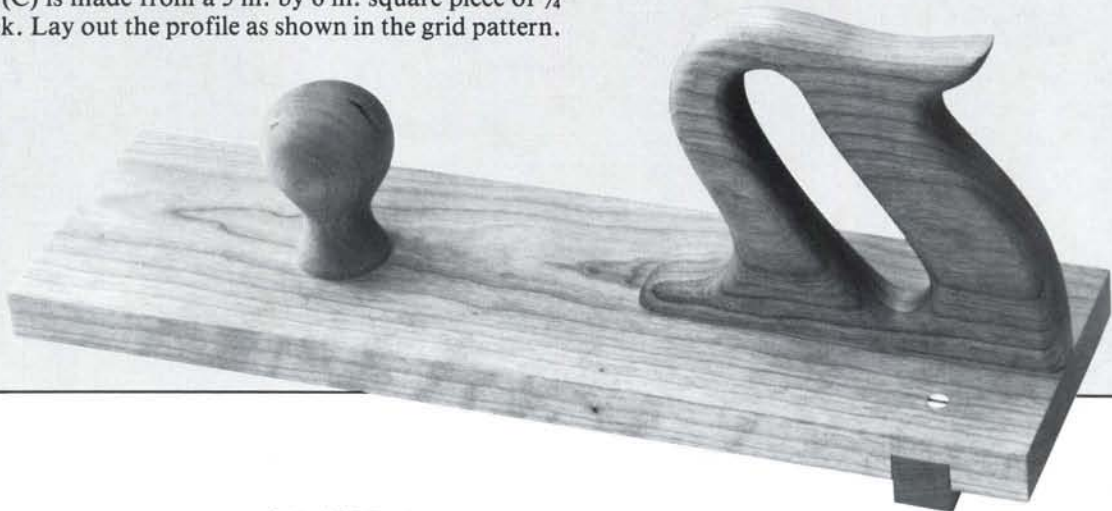


# Jointer Push Board

The jointer is not normally a particularly dangerous tool, but it has been known to claim some fingertips when hands get too near, or when stock is suddenly pulled into the cutterhead. This push board will allow you to maintain control while feeding stock across the cutters, with hands kept safely out of harm's way.

Our push board is crafted from cherry, but any good hardwood will do. Cut the base (A) and stop (B) to length and width, then use the dado head to establish the  $\frac{3}{8}$  in. deep by  $\frac{3}{4}$  in. wide dado 1 in. from the end of part A. The handle (C) is made from a 5 in. by 6 in. square piece of  $\frac{3}{4}$  in. stock. Lay out the profile as shown in the grid pattern.

Use a  $\frac{7}{8}$  in. diameter Forstner bit to drill out the handle center, and then saber saw to remove the remaining waste. The band saw or jigsaw is used next to rough the handle perimeter. A  $\frac{1}{4}$  in. radius bearing-guided round-over bit in the router table is an effective way to apply the  $\frac{1}{4}$  in. radius. The knob (D) may either be lathe-turned to the indicated dimensions, or if you don't have a lathe, the knob may be hand shaped and then sanded. After sanding, assemble the parts as shown with glue and countersunk screws. *Wwj*



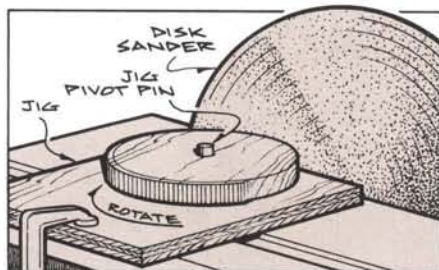
# Shop Tips

When edge-gluing dark colored woods, it's often difficult to hide the glue line because white and yellow glues are light in color. Next time, mix a little food coloring in the glue before application. The darkened glue line won't be as easy to spot.

Winter weather often means a cold workshop. A number of glues won't work well if the temperature is too low. Before doing any gluing-up, make sure that both the glue and the stock are warm enough. Keep a thermometer in the shop and read the manufacturer's labels for minimum temperature requirements.

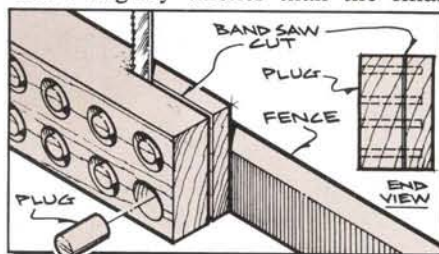
Polished brass hardware will keep its bright finish if a coat of lacquer is applied to the surface.

You'll be able to get perfectly round wheels (or disks) with this simple jig. Cut the wheel slightly oversized on the band saw and bore a hole (at the centerpoint) to fit the jig's pivot pin. With the jig clamped to the disk



sander, rotate the wheel to sand the entire edge. The result will be a perfect circle.

Here's a quick way to cut a bunch of same-size wood plugs. Start with stock that's slightly thicker than the final



plug length, then use the plug cutter to bore the plug holes. The band saw and rip fence can then be used as shown to cut the plugs free.

*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.

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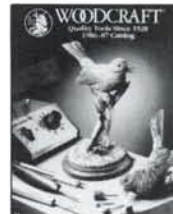
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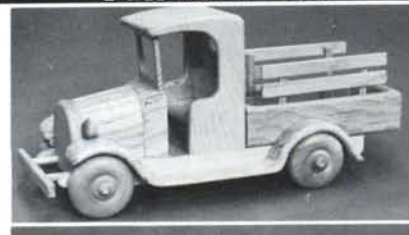
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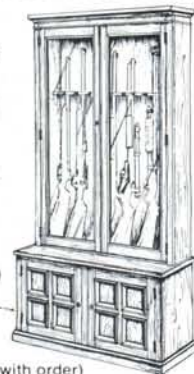
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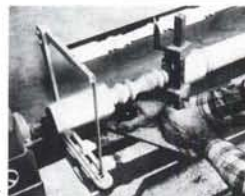


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Contemporary Sofa Table, Artist's Easel, Candle Box, Laminated Box, Butcher Block Knife Rack, Frog Pull Toy, Infinity Mirror, Japanese Style Table Lamp, Empire Footstool, Desk Caddy, Stepped-Back Hutch, Buckboard Seat, Lattice-work Cutting Jig, *Articles:* Working with Plywood; Insurance for the Workshop; Some Thoughts on Glues and Gluing.

## Vol. 6 No. 2 Mar-Apr '82

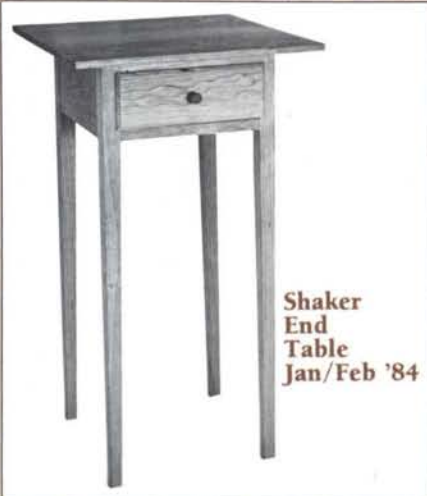
Early American Blanket Chest, 18th Century Corner Shelf, Pine Footstool, Cheese Cutting Board, Napkin Holder, Trivets, Coaster Set, Pierced Tin Cabinet, Hutch Clock, Oak File Cabinet, Mahogany Tripod Table, Wall Hung Plant Bracket, *Articles:* Methods of Producing Thin Stock; Some Thoughts on Selling; A Pseudo-Colonial Spanish Chair: Part I.

## 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 Century Step-Chair, Sailing Ship Weather Vane, *Articles:* Bench Hooks and Shooting Boards; Bookkeeping: Part I; Pseudo-Colonial Spanish Chair: Part II.

## Vol. 6 No. 4 July-Aug '82

Dovetailed Footstool, Toy Chest, Plant Stand, 18th Century Lawyer's Case, Frame and Panel Joint with Decorative Bevel, Collector's Plate Frame, Toy Jeep, Trestle Table and Bench, 19th Century Danish Washstand, Contemporary Wall Valet, *Articles:* Cabinet Scrapers and How to Use Them; Bookkeeping: Part II; Finishing Tips.



Shaker  
End  
Table  
Jan/Feb '84

## 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, *Articles:* Pinned and Wedged Mortise and Tenon Joints; The Craft Market; More Finishing Tips.

## 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 Router Jig, *Articles:* All About Box Joints; Don't Sell for Less than Cost; Finishing Tips.

## 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, *Articles:* Miter and Splines Joints; The Added Costs of Being in Business; Selecting Clear Finishes.

## 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, *Articles:* Flat Miter Joints with the Table Saw and Router; Woodworking for Fun vs. Woodworking for Work; Applying a Clear Finish.

## 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, *Articles:* Handtools and Table Saw Methods; Record Keeping: The Key to Profitable Costing; A Cure for Loose Legs.

## Vol. 7 No. 4 July-Aug '83

Turned Lamp, Decoy Carving, Antique Sugar Chest, Record Album & Tape Cabinet, Chinese Tea Table, Old-World Weather Forecaster, Toy Tractor & Cart, Display Pedestal, Two Planter Projects, Collector's Plate Stand, Hardware Suppliers, *Articles:* Dovetail Joints: Part I; Keep Track of Costs or You'll Be Overtaxed; Some Spraying Techniques; Inlaid Edging.

## Vol. 7 No. 5 Sept-Oct '83

Shaker Writing Desk, Modelmaker's Bench, Canning Jar Storage Shelves, Turned Bowl, Oriental Table, Router Table, Band Saw Box, Toy Pumper Firetruck, Toy Airplane, Spoon Rack, Magazine Rack, Bootjack, Furniture Kit Suppliers, *Articles:* Dovetail Joints: Part II; Some Thoughts on Low-Cost, No-Cost Advertising; Correcting Flaws in the Finish; Routed Drawer Pulls; Working Wood Co-operatively.

## Vol. 7 No. 6 Nov-Dec '83

Lighted Wall Planter, Roller Stand, Early American Wall Secretary, Dressing Screen, Wine Rack, Shaker Chest of Drawers, Waterbed, Toy Train, Mitten Box, Hooded Doll Cradle, Coal Scuttle, Elephant Push Toy, *Articles:* Basic Drawer Construction and Installation; Display Advertising; Some Repair Hints; Making a Raised Arch Panel.

## Vol. 8 No. 1 Jan-Feb '84

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

Rocking  
Horse  
Mar/Apr '84



## Vol. 8 No. 2 Mar-Apr '84

Shaker Wall Clock, Compact Dry Bar, High Chair, Kitchen Canister Set, Colonial Water Bench, Stacking Desk Trays, Wooden Brooches, Toy Bulldozer, Rocking Horse, Contemporary Table, Wall Hung Telephone Cabinet, Pipe Smoker's Organizer, Clock Parts Suppliers, *Articles:* Edge-Joining Boards; More Sources of Information; More Hope for the Hopeless Cases; Making Cabriole Legs.

## Vol. 8 No. 3 May-June '84

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

### Vol. 8 No. 4 July-Aug '84

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

### Vol. 8 No. 5 Sept-Oct '84

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

### Workshop Tote



Jan/Feb '83

### Vol. 8 No. 6 Nov-Dec '84

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

### Vol. 9 No. 1 Jan-Feb '85

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

### Vol. 9 No. 2 Mar-Apr '85

Queen Anne Lowboy, Television/VCR Stand, Early American Pine Corner Cupboard, Toy Tool Set, Windspinner, Woodchopper Whirligig, Chinese Puzzle, Cut-off Jig, Blanket Chest, Shaker Harvest Table, Blacksmith's Tool Tray, *Articles*: A Guide to Photographing Your Work; Applying Shellac and Lacquer; Sharpening Plane Blades and Chisels; Installing Machine Woven

Cane; American Queen Anne, 1715-1755; General Woodworking Suppliers.

### Vol. 9 No. 3 May-June '85

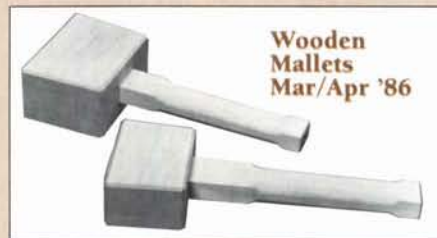
Jacobean Joint Stool, Wall Cabinet with Recessed Finger Pulls, Shaker Desk, Kitchen Cart, Contemporary Wall Clock, Colonial Wall Sconce, Card Box, Towel Bar with Glass Shelf, Marble Race Toy, Cradle, Vanity Mirror, Miter Clamping Jig, *Articles*: Product Liability, Part I; Restoring an Antique Mirror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

### Vol. 9 No. 4 July-Aug '85

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

### Vol. 9 No. 5 Sept-Oct '85

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



### Wooden Mallets Mar/Apr '86

### Vol. 9 No. 6 Nov-Dec '85

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

### Vol. 10 No. 1 Jan-Feb '86

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

### Vol. 10 No. 2 Mar-Apr '86

Zebrawood Veneered End Table, Shaker Oval Box, Microwave Cart, Pin-Hole Puzzle, Tumbling Monkey Toy, Early American Wall Box, Kicking Donkey Whirligig, Shaker Side Table, Wooden Mallets, Federal Period Washstand, Connecticut Shelf Clock, *Articles*: A General Guide to Craft Fairs; Why Wood Warps; Cutting Tapers, Wedges and Other Irregular Shapes with the Table Saw; Unsupported or Hand Steam Bending; 1/4 in. Variable Speed Reversible Drills; Federal Period; Hardware Suppliers.

### Blacksmith's Tool Tray Mar/Apr '85



### Vol. 10 No. 3 May-June '86

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

### Vol. 10 No. 4 July-Aug '86

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

### Vol. 10 No. 5 Sept-Oct '86

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

### Vol. 10 No. 6 Nov-Dec '86

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

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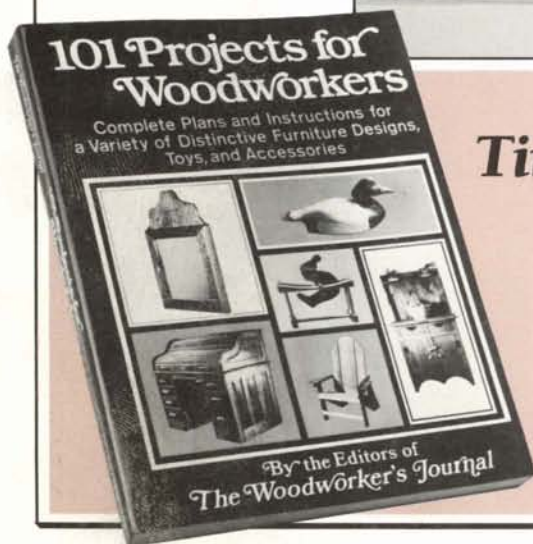
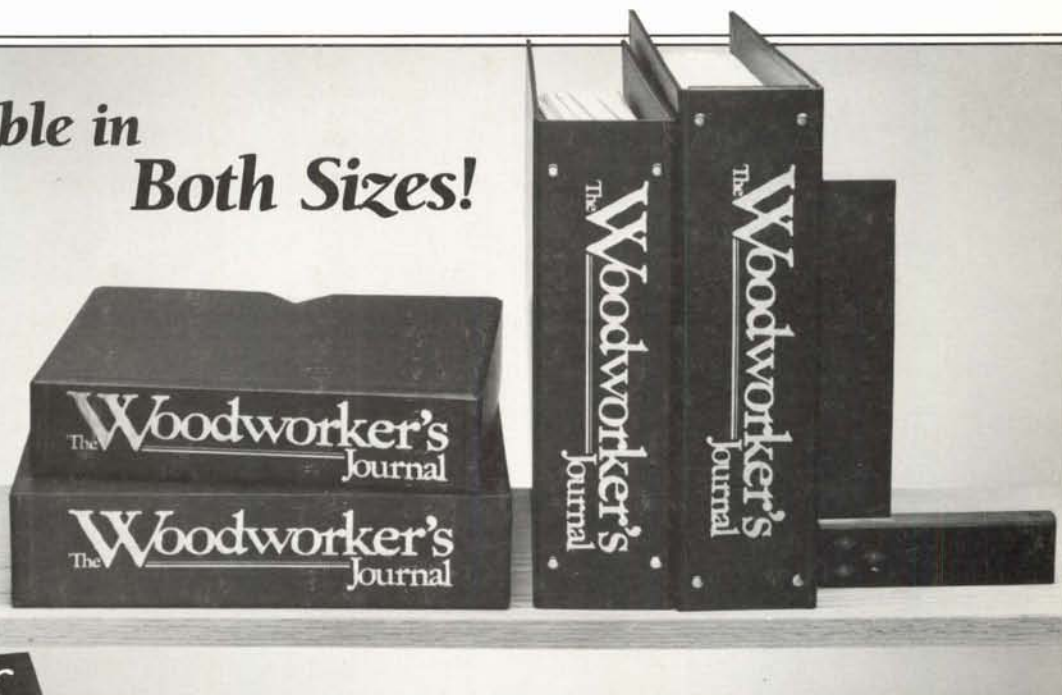
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## Next issue...

Here are a couple of the projects we've lined up for the March/April 1987 issue of

**The Woodworker's Journal**



Side Table



Shaker  
Sewing Cabinet

... and more