
The Woodworker's Journal

Vol. 7, No. 6

November/December 1983

\$2.50



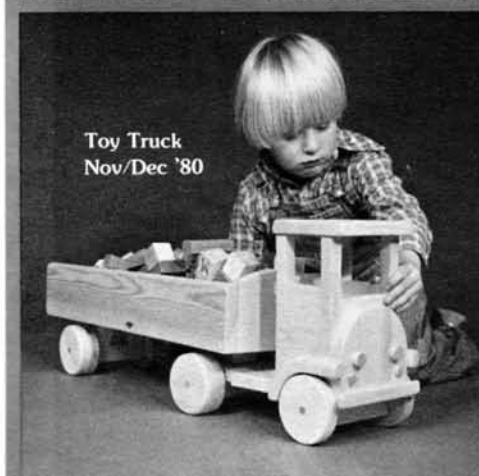
Included In This Issue: Wall Secretary • Dressing Screen • Roller Stand
Doll Cradle • Mitten Box • Toy Train • Lighted Wall Planter • Waterbed
Elephant Push Toy • Wine Rack • Hooded Doll Cradle • Shaker Chest

BACK ISSUES



Pierced Tin Cabinet

Mar/Apr '82



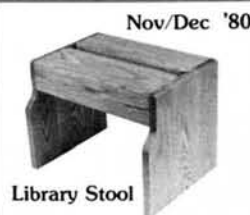
Toy Truck
Nov/Dec '80



Nov/Dec '81
Fireplace Bellows



Black Forest
Clock Jan/Feb
'81



Nov/Dec '80
Library Stool



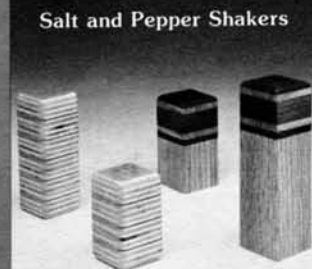
18th Century Rudder Table

Sept/Oct '81



Pine Shaker Cupboard

Jan/Feb '81



Salt and Pepper Shakers

March/Apr '81



Toy Helicopter

May/June '82



Vanity Jan/Feb '81

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

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

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

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

Vol. 4 No. 6 Nov-Dec '80: 17th Cent. Mantle Clock, Toy Truck, Bud Vase, Grain Scoop, Spoon Rack, Salt and Pepper Shakers, Calculator Stand, Anchor Thermometer, Plant Stand, Oak Writing Desk, 18th Cent. Chair Table, Shop-Built Hand-screw.

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

Vol. 5 No. 2 Mar-Apr '81: Child's Rocker, Bandsaw Jig, Push-Pull Toy, Half-Round Table, Letter Rack, Phone Memo Caddy, Toy Circus Wagons, Animal Puzzles, Library Stool, Quilt Rack, Ratchet Table/Lamp, 18th Cent. Trestle Table, Lathe Steady Rest.

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

Vol. 5 No. 4 July-Aug '81: Longhorn Steer, Bike Rack, Miniature Chest, Doll House Bed, Curio Shelves, Belt Rack, Rocker

Footrest, Early American Wall Shelf, Multipurpose Cabinet, Box Box Cutting Jig, Dish Rack.

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

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

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

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

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

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

Vol. 6 No. 5 Sept-Oct '82: Early American Hanging Corner Cupboard, Breakfast Serving Tray, Veneered End Table, Chess

Table, Chest of Drawers, Contemporary Writing Desk, Whale Toy, Laminated Shoehorn, Spaghetti Measure, Candle Holder, Horizontal Boring Jig, Cane Suppliers, Finishing Suppliers.

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

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

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

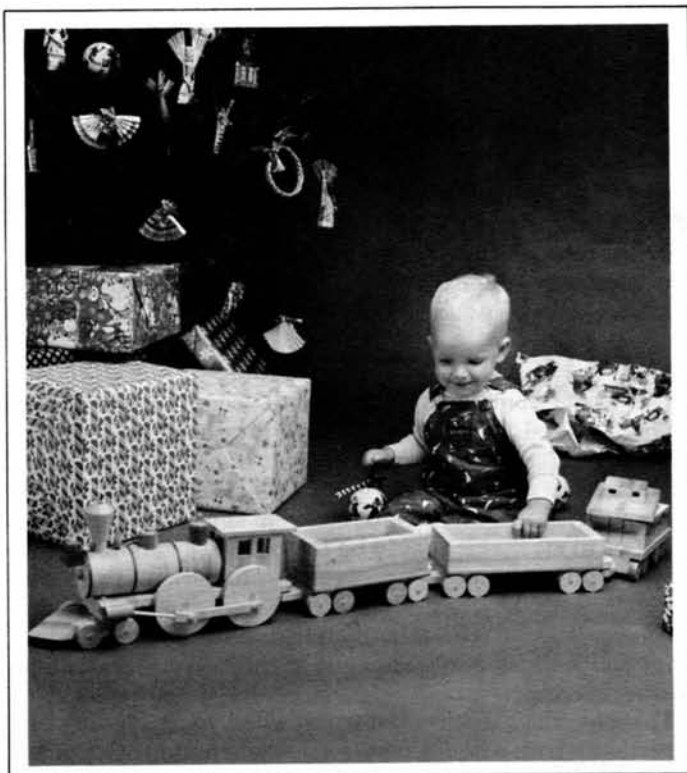
Vol. 7 No. 3 May-June '83: Oak Pedestal Table, Drafting Table, Early American Wall Unit, Folding Snack Table, Pine Corner Cupboard, Toy Car with Boat & Trailer, Letter Opener, Contemporary Serving Tray, Hanging Mirror with Shelf, Carved Eagle, Early American Portable Bookcase, Hardwood Suppliers.

Vol. 7 No. 4 July-August '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.

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 Kits.

Please Note

Vol. 4, No.'s 3 and 4 are newsprint issues for \$1.50 each. From Vol. 4, No. 5 on, they are magazines for \$2.50 each, postpaid. CT residents only please add 7 1/2% sales tax.



Toy Train, see page 58.

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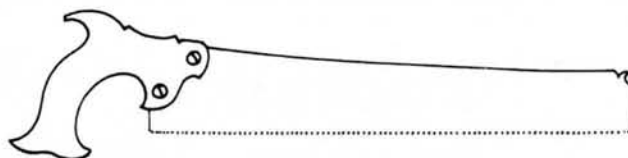
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Contributions

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



The Woodworker's Journal

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NOVEMBER/DECEMBER 1983

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Shoptalk

Democracy In Action

The decision as to what will appear on the front page is not always an easy one to make. Taking this issue for example, we had several possibilities to consider. One was the lovely mahogany dressing screen designed and built by Glenn Firmender. Naturally, Glenn was very much in favor of using a photo of that. Another was the toy train and this, we felt, should be shown in a setting of Christmas tree, wrapped gifts and a delighted child. A third possibility was to show the pine wall secretary; this choice being complicated by the question of whether to show it in an open or closed position.

Having been born under the sign of Libra, I weighed one possibility against another until I became thoroughly muddled and unable to decide. Since I pride myself on being always willing to listen to the opinions of others (Librans do that so they can have more information to weigh and become more confused), I put the matter up to an employee vote.

The vote was split between five for the dressing screen and five for the toy train with only two votes, including mine, in favor of the wall secretary. Librans like to veto.

Woodworking Shows

The Woodworking World Show in Philadelphia will be held at the Farmers Market in Downingtown, from Nov. 11th through the 13th. We will be in booth 74 and hope you

will pay us a visit. Another big show will be held in Toronto at the Constellation Hotel and Convention Center, from Feb. 3rd through the 5th. Now if some promoter would just set up a show in January, in a warm place like Palm Beach, Florida, I'd be very happy to attend.

Tempus Fugit

This issue completes our seventh (count 'em) year of publication and, looking back, I find it hard to believe that the time has passed so quickly. Why is it the older one gets, the faster the years seem to go by, while for a 17 year old, it seems to take an eternity to reach the age of 18?

Seems to me that it should be the other way around, with the perception of time compressing for impatient youth and gradually stretching out for those who are looking forward to retirement or a leisurely pursuit of those activities they never had time for while engaged in the Great Marathon of earning a living.

That old adage about time flying when you're having fun is certainly true when it comes to woodworking. Get yourself really into a project on a Saturday morning and before you know it, it's Sunday evening.

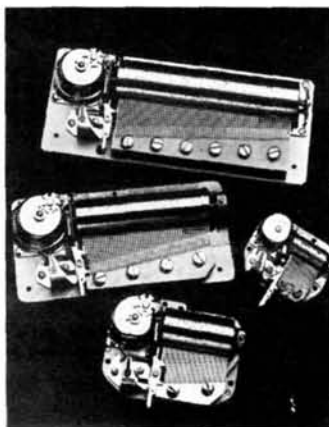
There's an old proverb, of Arabic origin I think, that states that God does not deduct from a person's life the time spent fishing. I like to think that applies also to those who work with wood.

Jim Mc Quillan

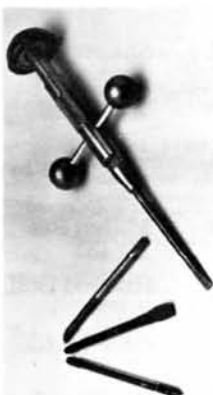
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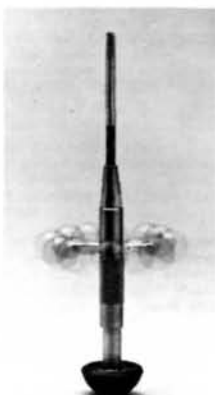
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Letters

In our shop we use a great variety of woods to repair and restore furniture from yesteryear. On a number of these projects we used an epoxy base glue which we tint to match the wood of the furniture. After years of trying to maintain an inventory of commercially made pigments for tinting, I've found that the best tints come right out of the kitchen. My wife's spice rack holds 24 different spices which are ready in their powdered form to mix with the epoxy to form glues or fillers of nearly any color to match nearly any wood!

Craig L. Graybar, West Allis, Wis.

I'm in the process of making an old ice box. The original units had thumb latch type catches and rather ornate hinges. I would like to use this type of hardware on my unit, but have been unable to find a supplier. Can you help?

Dennis James, Loveland, Colo.

Reproduction ice box hardware is available via mail-order from Ritter and Son Hardware, Gualala, CA 95445 (This is their complete address). For more information, send for a copy of their catalog.

As an amateur woodworker, I generally find your magazine quite interesting. As someone making a career in advertising, I found your Workshop Income column (September/October, 1983) which dealt with advertising of particular interest. You researched classified advertising well enough to write one paragraph. You should have stopped there.

While you were correct in cautioning people to use careful planning in composing a classified ad (true for any type advertising) you make it sound much more difficult and costly than it need be. The paper of 70,000 circulation you mentioned probably has a

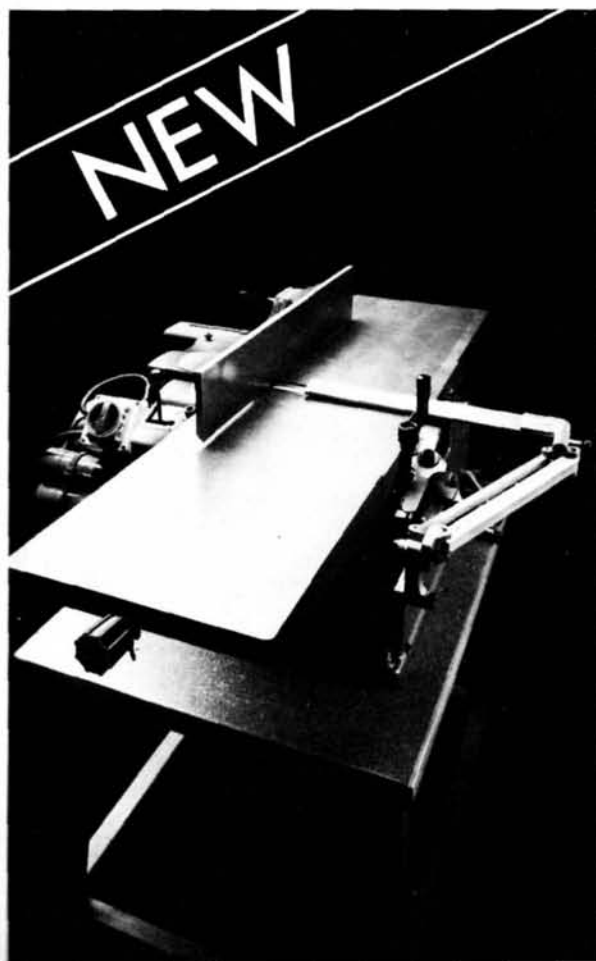
half-dozen classified specialists trained and experienced enough to put an advertiser's ideas into a succinct, effective sales message. "Ad-visors," as they are known in the business, perform such a task an average of 50-60 times per day at a paper that size.

You warn that a classified ad will rarely result in a "mass of customers knocking down your door". Let me remind you we are discussing "low-cost, no-cost" advertising. The type advertising that brings out the masses requires investment backed by thorough, extensive planning and diligent execution.

It is unfortunate that you failed to search out statistics on classifieds as carefully as you did Yellow Pages. You might have discovered that 68 per cent of all newspaper readers peruse the classified section in the course of any given week. (Source: Response Analysis Corp. for the Newspaper Advertising Bureau)

No amount of advertising can

(continued on next page)



The INCA Jointer/Planer is so good, our customers are becoming our salesmen.

"Our INCA 510 Auto Feed Thickness Planer is your best salesman. It produces for us."

—L.C. Wisconsin

"I have used the Model 510 you sent. It is a wonderful machine and as a thickness planer it is incomparable."

—P.S. New Hampshire

When customers write letters like that, we have to wonder whether we ever need to run an ad for the INCA Automatic Jointer/Planer. But this time we have a reason. Because this fine machine is now even better. And even more versatile.

Just a few of the improvements include longer tables and fence, with two feed speeds that can be

changed while in operation. As well as an adjustable outfeed bed and a choice of either a 1½hp (110 volts) or a 2hp (220 volts) motor. Plus a half dozen other improvements you'd probably never notice, but help make the new INCA 550 the best Jointer/Planer money can buy.

And when you consider that the INCA 550 can plane wood flat and parallel from rough lumber and turn all those twisted, wavy boards that used to be scrap into good wood, this machine will pay for itself.

And at only \$1495 (including motor) it won't take long.

Add to that the 5-year, limited warranty—even commercial use is covered—and you have an unbeatable machine. And an unbeatable deal.

We just can't resist one more of our customer's comments.

"The INCA machines are pure joy. I've sold all my other machines and replaced them with INCA."

—T.R. Michigan

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Dept. 185

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Dealer inquiries invited from established woodworkers.



salvage a bad product or, for that matter, a good product priced too high. Ask the people who tried to sell the Edsel, one of history's most highly promoted new products. It all comes down to a basic principle of marketing. Start with the right product at the right place and price. If you can supply those, I can guarantee a consistent well-planned classified ad will bring you all the customers you can handle.

David Alley
Classified Advertising Manager
News-Star-World
Monroe, La

I'm a woodworking student at James Caldwell High School in West Caldwell, New Jersey. Can you tell me where I can get plans for wind powered weather vane toys?

Dan Cordasco, West Caldwell, N.J.

The Woodworker's Store, 21801 Industrial Blvd., Rogers, MN 55374 sells a set of plans for animated weather vanes. The price is \$3.25 plus \$1.50 handling and shipping. Order p/n G8293.

Can you give me the name of a company that sells plans for cupolas?

Louis C. Eaton, Howell, Mich.

Craft Patterns, 2200 Dean Street, St. Charles, IL 60174 sells cupola plans. Send \$1.00 for a copy of their current catalog.

Do you know where I can find leather handles similar to those used on old-style steamer trucks?

Frank Lew, Altunas, Calif.

The company Charolette Ford Trunks, Box 536, Spearman, Tx 79081 sells a variety of trunk parts. Write to them for more information.

There is probably not one in 100 readers of *The Woodworker's Journal* who are lucky enough to have a dust-free room for finishing their projects. Here is something I have been doing for years now, and though it might not be 100 percent perfect, it does produce

quite ideal results in regards to combating the dust problem when applying varnish.

I use a sweeping compound about an hour before I plan to apply varnish. Then, prior to the time I start applying a finish, I spray the area floor with a mist of water. An old Windex spray container works quite well. After that, you can begin applying your finish; you might want to add more water mist on the floor in the middle of the job as added insurance against dust particles alighting on the wet project.

Robert O. Burrows
Belle Plaine, Iowa

I'm looking for a supplier of desk chair swivels—the type that allows the chair to tilt as it swivels.

William LaSalle, Clayton, Kans.

Valley Creek Woodworks, Box 68, Lakeland, MN 55043 sells a chair swivel and tilt mechanism. Both the height and tilt tension are adjustable. Price is \$60.00 postpaid.

(continued on next page)

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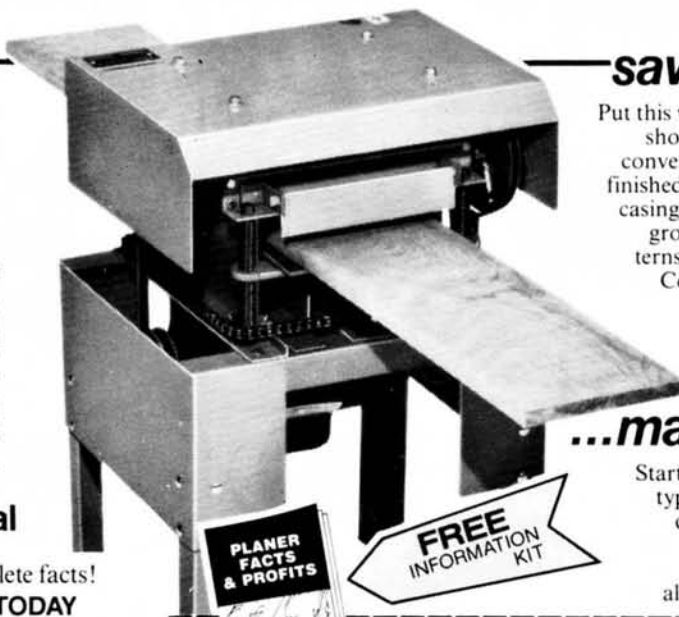
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☐ Set of 8 Turning Chisels \$29.00

- ☐ Belt Sander \$52.00
☐ Disc Sander Attachment \$17.00
☐ Mitre Gauge for Sander \$3.50
☐ Jointer-Planer \$63.30
☐ Ball-bearing Spindle \$15.70
☐ Spindle Shaper Kit \$44.40
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8" TILT ARBOR

POWER SAW

DOES WORK OF \$150.00 BENCH SAW as is. Converts easily to equal any \$300.00 floor model cabinet units! Crosscuts, rips, mitres, cuts compound angles, dados, makes coves and moldings.

\$52.50

f.o.b. factory. Wt. 22 lbs. Including completely assembled cast iron and steel 8" saw with ground cast iron table, blade guard, mitre gauge, Less blade, RIP FENCE, if desired, for easier work alignment, \$6.50 add'l.

PRECISION BALL BEARING SPINDLE for commercial service, \$12.50 add'l.

SAW BLADE TILTS

securely at any angle up to 50°. Raises, lowers, 0° to 2-1/4°. Takes standard blade, saw insert removes to take dado heads, cutters, etc., (not included). Takes 1-3 HP motor or larger (not included). RIP FENCE, if desired for easier work alignment. Standard size (for bench saw) \$6.50, long rip fence for cabinet base (as shown), \$7.50.

FREE CABINET BASE PLANS Use bench saw as received (inset photo) . . . or transform easily and inexpensively into floor model (as shown) guaranteed to do work of floor models costing \$300. FREE plans . . . all you'll need are a sheet of 3/4" plywood and 3-4 hours. Use your AMT saw for cutting. Plans provide 27" x 24" work surface, 33" height.

10-YEAR LIMITED WARRANTY*



INDUSTRIAL SIZE 12" SWING 4 FT. WOOD LATHE

DOES WORK OF \$200 UNITS.

\$67.75

Complete as shown.

10-YEAR LIMITED WARRANTY*

Comparable in speed, precision and durability to units selling for \$200 and more. 36" between centers. For wood and plastics. Tubular steel bed rails with dual point suspension increase accuracy, ease of operation. Precision ball thrust cup center, heavy spur center, graduated T-rest. 3-Speed pulley for different work diameters. Heavy-duty ball-bearing model \$79.50.

f.o.b. factory. Shipping Wt. 30 lbs. Faceplate (optional) for turning bowls, lamp bases, etc. \$4.50. Set of 3 high speed turning chisels, \$11.00 add'l; Set of 8, \$29.00.

PRECISION 4" x 36"

BELT SANDER

f.o.b. factory Wt. 18 lbs.

\$52.00 Disc Sander attachment including disc, bracket, ground cast table (tilts 0-45°); \$17.00 add'l.

The world's most talented belt sander. Heavy cast iron sander has belt track and tension control; includes 4" x 36" standard sanding belt. Changes from horizontal to vertical sanding in seconds. Uses 1-3 HP or larger motor.

10-YEAR LIMITED WARRANTY*

22" LONG, 4-1/8"

JOINTER-PLANER

Complete as shown. 100% precision ground cast iron and steel.

Professional power planing at a hand tool price. Make faster, more accurate joints & bevels for windows, doors, drawers, square tapered legs. Adjustable precision ground cast iron table. In-feed table adjustable to 1/8" depth of cut, fence adjustable to any angle 0° to 50°. 3 hardened, ground high-speed steel knives. Ball Bearing Spindle: \$15.70 add'l.

10-YEAR LIMITED WARRANTY*

SPINDLE SHAPER KIT with holddown

\$44.40

f.o.b. factory. Shipping Wt. 6 lbs. Complete less wood parts, motor.

Makes beads, coves, moldings, tongue-and-groove joints, etc. Easy assembly plans. Has sealed greased-for-life ball bearings, adjustable height control, fence assembly. Takes 1/4 HP or larger motor. Standard 1/2" bore cutters available.

10-YEAR LIMITED WARRANTY*

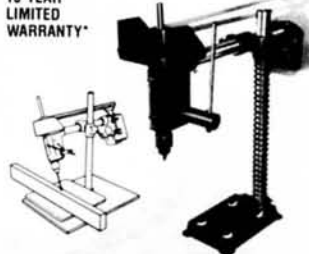
32" RADIAL DRILL PRESS

\$89.90

All cast iron and steel. f.o.b. factory. Wt. 30 lbs. 1/2" capacity Jacob's chuck included.

Industrial quality precision unit with all standard features, many extras. Head raises, lowers. Depth of throat up to 16". Preset to any angle for on or off table drilling, even horizontal drilling. Complete as shown less motor, belt and motor pulley.

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BRAND NEW

GE MOTOR

Develops a full 1 HP. New General Electric Motor for use with any power tool in this ad. Features 1/2" shaft, 1725 RPM. \$49.50 if purchased with any AMT tool (\$54.55 if purchased separately).

Covered by a one year limited warranty. 17 lbs. f.o.b. factory.



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Letters (Cont'd)

In your May/June 1983 issue, there was an interesting pine corner cupboard project. In the article reference was made to "cut nails". Will you please advise where these nails can be obtained.

Bobby L. Locke, Orange, Tex.

Old-fashioned cut nails can be purchased from the Tremont Nail Co., 8 Elm Street, Wareham, MA 02571. Write to them for more information.

Odds and Ends

Recently I was given a Craftsman floor model circular saw #103.22451. I would appreciate hearing from anyone who has a manual or any information regarding this saw.

Albert Harris

3102 West 141st Place
Blue Island, IL 60406

I am looking for decorative hardware (handles, pulls, hasps) with a Chinese or Asian motif. I cannot seem to find this style of hardware in my area. Can you provide any information?

Fred W. Breheim

1830 North Dale Ave.
Arlington Heights, IL 60004

The Louisiana Crafts Council's Sixteenth annual crafts competition, a juried exhibit, will be shown from February 26 through March 16 1984 at the Clark Hall Art Gallery, Southeastern Louisiana University, Hammond, Louisiana. Cash awards of over \$1000.00 will be given. The competition is open to all residents of Louisiana and all Louisiana Crafts Council members who are 18 years of age or older. Membership is not limited to Louisiana residents. The entry fee is \$10 for members, \$15 for non-members, for a maximum of three works. The show will be juried by slides, one to three slides per work. All craft media are eligible.

Entry forms are available from the

(continued on page 10)



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What's the secret? We start with our best quality, industrial grade, carbide tipped blade. Then, using a newly developed process, we permanently bond a heavy duty, closed coat, aluminum oxide abrasive to both faces. The result is SANBLADE—a blade that begins with the cut of the finest carbide tipped blade and then goes on to sand a satin finish on every piece of wood that comes off your saw table.

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WJ/11

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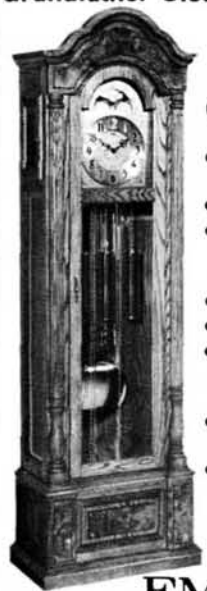
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Build your own
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wind."



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(THE MOTHER EARTH NEWS®).
Whirligigs are delightful, whimsical toys from America's past that, with waving arms, sweeping wings, and speeding propellers, whirl and turn in the wind. This new book traces the origins of the whirligig and provides a large selection of traditional designs with detailed instructions and working drawings for each, which you can build with simple tools and inexpensive materials. 80 pages. Paperback. 66189 \$6.95

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We will refund your money on any book returned
undamaged within 10 days. Your books will be shipped
within 72 hours after your order arrives.

230904

Letters (Cont'd)

Louisiana Crafts Council, 7214 St.
Charles Ave. #922, New Orleans, LA
70118. Slides and entry forms are due
December 1, 1983.

Contest rules and applications are
now available for the "1984 Best Wood
Toy Contest", sponsored by Love-
Built Toys, Inc., Box 5459, Tahoe City,
CA. 95730. More than \$750.00 in
prizes will be awarded to two age
groups: 18 and under, and 19 and
over. All contest entries must be re-
ceived before April 10, 1984. Final
judging will be on May 23, 1984. For
more information contact Dale C.
Prohaska, Jr.

The Denver Art Museum Craft Fair
will be held August 24th through
August 26th 1984. It will be open to all
qualified crafts people, with cash
prizes to be awarded. For information
and applications write to:

The Denver Art Museum
Craft Fair
5765 South Monaco Street
Englewood, CO 80111

I'd be thankful to any fellow wood-
worker who could provide me with a
copy of a manual and parts list for a
Sears table mounted jigsaw model
number 103 0407.

William Jennette
5 Mitchell Pl.
Cranford, NJ 07016

I need a parts list and owner's man-
ual for "Power-Kraft" jig saw model
No. FD2356B. I'm willing to pay for a
copy.

Richard Lang
4308 Graham Rd.
Jamesville, NY 13078

Recently I obtained a Sears Model
101.06242 lathe. I would greatly ap-
preciate it if a fellow woodturner could
provide a photocopy of a manual at my
expense.

James Smoody
1014 School Place
Green Bay, WI 54303

I saw Tom Smith's letter in the September/October issue of the *Journal* and I, too, found a Sears Craftsman 18 in. jig saw, model No. 103.20720. No manual was available, so if any readers can provide a copy I am willing to pay for it.

My unit needed replacement parts in the transmission mechanism and, surprisingly, Sears still had parts available.

Keep up the good work with the *Journal*. I look forward to every issue.

Melvin A. Vistine
13228 Delft Drive
St. Louis, MO 63146

Does anyone have a Stanley number 77 doweling machine who would be willing to sell it?

Dick Ehrmann
10304 Humboldt Cir.
Minneapolis, MN 55431

I would be grateful for help in locating an operators manual for a Foley Model G1 filer. I wrote to Foley-Belsaw and learned that they don't keep replacement parts for machines that old.

R.B. Overby
Rt. 12, Box 355
Winston Salem, NC 27107

Woodworking Club Notes

I am pleased to announce the formation of a new woodworking association in the Southern Oregon/Northern California area. The Southern Cascade Woodcrafters Guild held its organizational meeting on Oct. 5, 1983 and drew 38 interested woodworkers at the first meeting. Membership is open to anyone interested in any form of woodcrafting. There are no age limits or geographical restrictions. We still have a lot of work to do yet as we haven't come up with a constitution or dues structure, but officers and board members have been elected. Anyone wishing further information should contact:

Southern Cascade Woodcrafters Guild
c/o The Woodwright's Gallery
P.O. Box 7571
Klamath Falls, Oregon 97602

Your home workshop can PAY-OFF

BIG...

Earn Extra Income

Right At Home.

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YOUR OWN
MONEY
MAKING
BUSINESS!



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Power Feed
Power Tool.

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Planer Molder Saw

Three power tools in one—
a real money-maker for you!

The Planer/Molder/Saw is a versatile piece of machinery. It turns out profitable precision molding, trim, flooring, furniture... in all popular patterns. Rips, planes, molds separately... or all at once. Used by individual home craftsman, cabinet and picture framing shops, lumber yards, contractors and carpenters.

Never before has there been a three-way, heavy-duty woodworker that does so many jobs for so little cost. Saws to width, planes to desired thickness, and molds to any choice of patterns. Cuts any molding pattern you desire. Provides trouble-free performance. And is so simple to operate even beginners can use it!

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KANSAS CITY, MO. 64111

FOLEY
BELSAW

Foley-Belsaw Co.
90355 Field Bldg.
Kansas City, Mo. 64111

FREE
BOOK

☐ YES, please send me the FREE Booklet that gives me complete facts about your Planer-Molder-Saw and full details on how I can qualify for a 30-Day Free Trial right in my own shop. I understand there is No Obligation and that No Salesman will call.

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Address _____

City _____

State _____

Zip _____

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TURN YOUR RADIAL SAW
AND YOUR ROUTER INTO
A PRECISION

PIN ROUTER!

FITS ANY ROUTER,
ANY SAW, AND IT'S...

AS QUICK AND
EASY AS
CHANGING A
SAW BLADE

\$49⁹⁵

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TEXAS ADD \$2.50 STATE SALES TAX

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- *SUPER QUIET

DESIGNED AND TOOLED
IN WEST GERMANY
MADE IN THE U.S.A.

\$6.50 Each

\$29.75 for 5

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#SP1 SHAKER PEGS

3 1/2" hardwood For 100
Each **28¢** **\$25.00**



#MG1 MUG PEGS

3 1/2" hardwood For 100
Each **28¢** **\$25.00**



#S23

HANGERS

For 100

\$4.95



#S59

SAW TOOTH HANGER

For 100

\$5.95



FREE WATCH with \$100.00 minimum order



Men's or Women's LCD Quartz Watch
Beautiful Digital Watch with Band in Gold Finish

Please check your first choice below.

____ Mens ____ Womens

This offer expires December 31, 1983, or
until supply runs out.

"LAZY SUSAN" BEARING

3-C 3" **90¢** 6-C 6" **\$2.25**
4-C 4" **\$1.35**



WOOD WHEELS

1" **\$2.95/40**
1 1/4" **\$3.95/40**
1 1/2" **\$2.95/20**



Finest hardwood available

BRASS EAGLE

#878

\$2.95/10
\$25.00/100

With pins
2 1/8 inch Wingspan



MAGNETIC CATCH

#CO81

Each **35¢**
For 100 **\$29.00**



#AP1

AXLE PEGS

\$1.50/20

Axle pegs fit our 1/4 inch
and 1/2 inch wheels only



BUTT HINGE

Brass plated with screws.
0910 1" x 1-1/16" x .035
10pr **\$2.95**

0928 1 1/2" x
1 1/2" x .040
10pr **\$3.95**



WOOD KNOBS

3/4" **15¢ Ea**
\$9.00/100
1" **24¢ Ea**
\$15.00/100 Hardwood
1 1/4" **25¢ Ea** **\$16.00/100**
1 3/4" **30¢ Ea** **\$22.00/100**
includes mounting screw



CORK COASTER

\$1.20/8 **\$14.00/100**

3 3/8" dia. x 1/8" thick



CLIPBOARD CLIPS

Nickel plated.
L5 3" **69¢ ea.** For 100 **\$69.00**
ST6 6" **79¢** For 100 **\$79.00**
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COAT AND HAT HOOK

#462

Antique brass
plated finish.

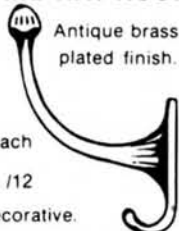
4 1/2 in.

\$1.95 Each

\$17.88/12

Very decorative.

Comes with mounting screws



#7186

CANDLE CUP

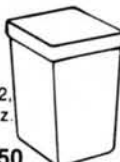
1-3/16" high.
Each **49¢**
For 100 **\$39**



CANISTER LINER SET

#1558

24, 32,
64, and 128 oz.
Set of 4 **\$7.50**



#2039

HASP

59¢ Each

Brass plated with pins



#5170

SHELF PINS

Plastic—fits
1/4" hole.
For 100 **\$5.95**



USE THIS HANDY ORDER FORM!

Please send me the following items in the
quantities indicated:

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_____	Q72	Clock Movement	\$6.50 @	\$29.75/5	_____
_____	SP1	Shaker Pegs	.28 @	\$25.00/100	_____
_____	MG1	Mug Pegs	.28 @	25.00/100	_____
_____	GP15	Grid Paper		3.50/15	_____
_____	462	Coat and Hat Hook	1.95	17.88/12	_____
_____	1558	Canister Liner Set	7.50 set		_____
_____	3-C	3" Lazy Susan Bearing	.90 @		_____
_____	4-C	4" Lazy Susan Bearing	1.35 @		_____
_____	6-C	6" Lazy Susan Bearing	2.25 @		_____
_____	S59	Saw Tooth Hanger		5.95/100	_____
_____	CO81	Magnetic Catch	.35 @	29.00/100	_____
_____	W100	1" Wood Wheel		2.95/40	_____
_____	W125	1 1/4" Wood Wheel		3.95/40	_____
_____	W150	1 1/2" Wood Wheel		2.95/20	_____
_____	AP1	Axle Pegs		1.50/20	_____
_____	S23	Hangers		4.95/100	_____
_____	2039	Hasp	.59 @		_____
_____	K75	Wood Knob 3/4"	.15 @	9.00/100	_____
_____	K100	Wood Knob 1"	.24 @	15.00/100	_____
_____	K125	Wood Knob 1 1/4"	.25 @	16.00/100	_____
_____	K175	Wood Knob 1 3/4"	.30 @	22.00/100	_____
_____	7186	Candle Cup	.49 @	39.00/100	_____
_____	5170	Shelf Pins		5.95/100	_____
_____	878	Brass Eagle	2.95/10	25.00/100	_____
_____	910	Butt Hinge 1"	2.95/10 pr.		_____
_____	928	Butt Hinge 1 1/2"	3.95/10 pr.		_____
_____	8338	Cork Coaster	1.20/8	14.00/100	_____
_____	L-5	Clip Board Clip	.69 @	49.00/100	_____
_____	ST6	Clip Board Clip	.79 @	59.00/100	_____

- ☐ Send for catalog (\$1.00 postage & handling) or free with order.
- ☐ Minimum order is \$15.00.
- ☐ Dealer inquiries invited.

SORRY, NO C.O.D.'S PLEASE DO NOT CALL
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\$26 - \$50 \$3.50
\$51 - \$100 \$4.50
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Alaska, Hawaii, Canada & APO Order Add
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Total Order

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Workshop Income

Display Advertising

Advertising, in one form or another, is essential to the survival of any business, no matter how big or small that business may be. Effective advertising will not only sell your product, which is the name of the game, but it will do it economically.

Although there are many different ways to advertise, only you can determine the type that is best suited to your business and its goals. If you're a woodworker who's content to work from your basement workshop and make a handful of toys each month, your advertising requirements will be minimal. However, if you have a fulltime wood-working business and are looking to grow bigger, your needs are going to be quite different.

Last issue in this column, we talked about some of the various forms of so-called "low-cost, no-cost" advertising that are available for free or at a minimal cost. We felt that many businesses, large and small, could put these types of advertising to effective use.

This issue, we'll take a look at display advertising, a type that's more expensive but, if used properly, can be a very important part of your advertising budget. Since most woodworkers will limit the scope of their display advertising to the telephone directory Yellow Pages and/or the local newspaper, we'll concentrate on those two media.

A display ad might be better called a space ad. To put it simply, you buy space on a page and fill it with information

about your business. How you fill that space is important. A good ad grabs your attention, looks attractive, and gets the message across.

The Yellow Pages

According to the phone company, four out of five adults use the Yellow Pages 34 times per year. For many businesses, it's an effective means of advertising. Unlike a newspaper ad, which gets tossed in the waste basket in a few hours, a Yellow Page ad exists for the one year life span of the directory. There's another difference. With a newspaper ad, the seller's looking for a buyer. In the Yellow Pages, the buyer's looking for a seller. This is important to keep in mind. You'll want to tell that buyer why he should call you, not your competitor.

Before you can advertise (or even be listed) in the Yellow Pages, your service must be classified as a business telephone. Here in Northwestern Connecticut, a business phone will cost you around \$30.00 a month, although charges will vary throughout the country. If you're operating a part-time business out of your basement, you may have a hard time justifying that kind of expense just for the opportunity to be in the Yellow Pages. However, if you've got a fair size operation, the business phone will probably be a necessity.

A business phone gives you an automatic listing in the Yellow Pages (at no additional charge), and you may feel that's all you need—or can afford. The listing simply consists of the name of your company along with its address and phone number. There is a small charge for bold type.

(continued on page 15)

The Most Complete Selection of TURNING STOCK-Lathe Tools-Accessories



Send today for free catalog!

- Solid hardwood turning squares, rounds & bowl stock
- Vega Lathes
- Sharpening & Honing Supplies
- Books & Information
- No minimum order
- Pre-Turned Spindles & Legs
- Turning Chisels & Tools
- Finishes
- Sanding Supplies
- And much, much more

(Please Print)



Send to:
Cryder Creek Wood
P.O. Box 19
Dept. 0202
Whitesville, N.Y.
14897

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

FREE Turning Blank with wood order!



A WOODWORKER'S BEST KEPT SECRET! **WATCO** Danish Oil **WOOD FINISH**

You, too, can discover the modern adaptation of the finest of old-time hand-rubbed finishing by using world-famous "Watco Danish Oil Wood Finish."

Watco is the "original" Danish Oil used by woodworkers and do-it-yourself professionals for more than fifty years.

What makes Watco so remarkable are the beautiful, natural results you can obtain easily, without all the tiring hours of hand-rubbing.

In one easy application, Watco Danish Oil primes, seals, finishes, hardens, and protects wood...never needing refinishing or resanding, and requiring little maintenance.

Watco Danish Oil Finish is available in Natural, and in Medium, Dark, and Black Walnut Shades. And now, four newly added colors in Cherry, Golden Oak, Fruitwood, and English Oak allow "one-step finishing" without pre-staining.

Be sure it's **Watco** Danish Oil Finish, the *original*, since 1927, and still the *best!*

Send for your **FREE** How To Beautifully Finish Wood booklet and the name of your nearest Watco distributor.

WATCO-DENNIS CORP., 1756-22nd St
Santa Monica, CA 90404, Dept.WJ-113

Name _____

Address _____

City _____

State _____ Zip _____

213/870-4781

**for Woodworkers
and Handymen!!**

**EXCLUSIVE
FEATURE**

Additional jaw fits on end-stop, gives necessary support for large workpieces. No other system has it!

Complete
instructions
included!

Precision-machined. Cast of tough aluminum alloy. Built to last.

Slip-on /
protective pads.

Moveable,
removable jaw

**INDUSTRIAL
QUALITY**

Handle works from left side, right side or middle of the bench.

**FULL
FIVE YEAR
WARRANTY!**

Complete details with purchase or write for advance free copy to: D.R.I. Industries, Inc., Dept. WWJ-1183 11100 Hampshire Ave. So., Bloomington, MN 55438

Like a whole workshop full of clamps and vises—all in one compact system!

- * Clamps any material—wood, metal, plastic, fiberglass.
- * Takes on any size from minute watches to full size doors and even larger...and everything in between.
- * Works in any position—above the bench, below the bench, on the left or right side, and even in the middle.
- * Puts a super hold on any shape—whether flat round, jointed, bulky or awkward.

**Use it for... *Sawing *Gluing *Planing *Routing *Nailing
*Drilling *Filing *Grinding *Soldering...and much more.**

100% Guarantee of Satisfaction!

Test Vunder Vise FREE of obligation to keep it. If you don't agree it's the ideal system, send it back for a complete refund.

A fraction of what you'd pay for all the tools it replaces... a fraction of what you'd pay for any other similar system!

just \$ **29⁹⁹** plus \$4.95 and handling

D.R.I. Industries!
We've introduced the NUT &
BOLT SHOP® the 4-Wheel
Wonder® and dozens of
other high-quality, unique
handyman products. OVER
2 MILLION CUSTOMERS.

Shop and Compare. Anything comparable costs about twice as much. But you get the same high quality plus the extra jaw!

Order now and get 2 FREE GIFTS! Free Shop Apron valued at \$4.99 plus a Surprise Free Gift...**BOTH** yours to keep, even if you return your Visa!

™ Vunder is a trademark of D.R.I. Industries, Inc.
© Copyright 1982 D.R.I. Industries, Inc.

Made in Taiwan

Order Yours Now! Just fill in the attached Special Offer Coupon and send it with your check, money order, company purchase order or credit card information.

Or credit card customers can call our 24-hour Toll-Free number:
800-228-5000
(in Nebraska, 800-642-8777).



40307

SPECIAL OFFER COUPON

DR
INDUSTRIES

Try it FREE of obligation to keep it!
If not totally satisfied, you can return your order
for a complete refund, including shipping and handling.
Make remittance payable and send to:
D.R.I. Industries, Inc., Dept. WWJ-1183
11100 Hampshire Ave. So., Bloomington, MN 55438

MAG-83

INDICATE
ORDER

How Many? **Vunder Vise(s) @ \$29.99 plus \$4.90 shipping and handling for each. (00007201)**

CHECK
METHOD
OF
PAYMENT

- ☐ I have enclosed my check or money order for the full amount. (MN residents add 6% sales tax.)
- ☐ I have enclosed my company purchase order (this card **MUST** accompany ALL purchase orders).
- ☐ Charge it to: ☐ VISA ☐ MasterCard ☐ American Express
☐ Diners Club ☐ Carte Blanche

Card No. _____ Exp. Date ____/____/____

SIGNATURE X _____
(Need sign only if charging)

PLEASE
PRINT
NAME

ADDRESS _____

CITY _____ Street & No. _____
 STATE _____ ZIP _____

Workshop Income, (Cont'd)

If you want your ad to stand out from the crowd, you'll want to consider a display ad. The rates for this type of ad will vary depending on the number of people served by the directory. A call to your local phone company will get you the rates for your area.

Our local directory is a small one, serving just under 29,000 people, so the ad costs are relatively low. A one-sixteenth page ad (2 in. wide by 2½ in. high) costs \$32.50 per month, a one-eighth page ad (4 in. wide by 2½ in. high) costs \$58.60 per month, and a one-half page vertical ad (4 in. wide by 10 in. high) is \$208.00 monthly. If red type is added, the price jumps about 50%. The monthly charge is added to your phone bill, and billing does not start until the directory is in circulation.

If you have doubts about your ability to design a good Yellow Pages display ad, the phone company will do it for you. Some phone companies charge for this, and some don't. Their mechanical specifications will dictate, to some extent, what you can do with your own design. Type size, border, and the like must meet their requirements. It's best to check with them before going too far.

The Yellow Pages are published just once a year, so if you miss their deadline, you'll have a long wait before you can get in. Make sure you get the ad worked out well in advance.

Once the directory gets into circulation, try to get an idea of how well it's doing. Make a point of asking customers how they found out about your business. After all, in less than a year you'll need to decide if you should run it again, or make it larger or smaller.

Newspapers

Daily newspapers can be a good ad media for a wood-working business. Generally speaking, newspapers reach a local market, and that's likely where you'll find most of your customers.

Like the phone company, most newspapers will help you prepare a display ad. Unlike the phone company, there are not many restrictions on type style and layout, so you may want to get involved in designing your own ad. If you want more information on advertising design, check your local library as there are many books on the subject.

Display ads for newspapers are sold by what is called the "column inch". A one column inch ad measures one column wide by one inch high. The width of a newspaper column may vary from one newspaper to another, but generally runs between 2 in. and 2½ in. A four inch ad will measure one column wide by four in. high. An ad that goes across two columns and is 2 in. high is also a four inch ad.

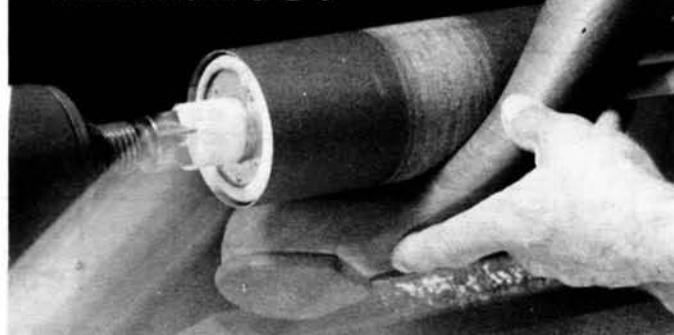
As you might expect, the ad rates will vary depending upon the circulation of the newspaper. The higher the circulation, the more you pay. A nearby daily newspaper with a circulation of about 70,000 charges \$8.82 per column inch for display ads. A four inch ad, therefore, will cost 4 x \$8.82 or \$35.28. This rate is for a one time insertion; weekly rates are offered at a discount. Also, if you buy larger ads (one-quarter page, one-half page, full-page), the cost per inch will be reduced.

A newspaper or Yellow Page ad provides you with an opportunity to put your best foot forward in front of a large audience. Whether or not the cost justifies the sales that result is something that only you can determine. If it does, you'll have another marketing tool to work with — one that can go a long way towards making your business grow and prosper.

Wvj

Introducing: The Cushion Contour™ Sander

Cut finishing time from hours to minutes!



Convert your lathe instantly to a fine wood-finishing tool!

- Eliminate tedious hand-finishing on contour, radius and profile work; perfect for flat work up to 8" wide.
- Produce quality finishing comparable to a professional woodworker!
- Virtually eliminate chatter marks and flat spots.
- Mount in seconds to any lathe equipped with a live center or free-wheeling tail stock!
- Inflate drum to desired pressure with ordinary bicycle pump—low pressure for curve and contour work; higher pressure for flat work.
- Comes in 2", 3", 4", 6" diameters. All 8" wide. Industrial quality sanding sleeves available in all sizes in 80, 100, 120, 150 grit; Aluminum Oxide or Garnet.
- Lifetime guarantee. If for any reason you are dissatisfied, we will replace your Cushion Contour Sander *absolutely free!*

ORDER TOLL-FREE

1-800-428-2222

In Pennsylvania
1-800-222-2292.

Or Fill Out This Order Form and Mail To:

Industrial Abrasives Company
642 North Eighth Street
Reading, PA 19603

FREE!

5 sanding sleeves with your order!

Cushion Contour Sander (8" wide).

☐ 2" Dia. \$49 ☐ 3" Dia. \$59 ☐ 4" Dia. \$68 ☐ 6" Dia. \$88

Sanding Sleeves (80, 100, 120, 150 grit). Specify A/O or Garnet.

☐ 2" \$1.25 ☐ 3" \$1.40 ☐ 4" \$1.75 ☐ 6" \$2.25

QTY. EA

☐ Check or money order enclosed.

80 Grit _____

☐ MasterCard ☐ VISA Exp. Date: _____

100 Grit _____

Card No. _____

120 Grit _____

Name _____

150 Grit _____

Address _____

City _____ State _____ Zip _____

PA residents add
6% Sales Tax
Buy two or more
Cushion Contour
Sanders and get a
10% discount off
regular price!
Free Delivery

TOOLS ON SALE

WE WILL PAY THE FREIGHT ON EVERY ITEM IN THIS AD

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



JORGENSEN ADJUSTABLE HAND SCREWS

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

WAGNER POWER PAINTERS

Series 100 — Ideally Suited for Smaller Jobs — Shutters, Louvered Doors, Decks, etc. Does it all without a compressor. Weighs 2 lb. 6 oz.

Model	List	Sale
100 HANDI-DUTY	\$126.95	\$89.00

Series 200 — Heavy Duty Suited for Houses, Porches, Garages; Flow rate 1 gallon in 20 minutes. Does it all without a compressor. Weighs 3 lb. 2 oz.

200 HEAVY DUTY	\$153.95	\$109.00
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Series 300 — Pro Duty Suited for Large Houses and above average maintenance painting. Flow rate 1 gallon in 20 minutes. Weighs 3 lb. 8 oz.

300 PRO-DUTY	\$209.95	\$139.00
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GENUINE FORSTNER BITS Type #60 — Made in U.S.A.

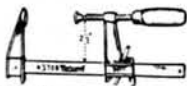
ALL SIZES AT SUPER SPECIAL PRICES — For Information:
CALL TOLL FREE 1-800-328-0457

DREMEL MOTO TOOLS

Model	MOTO-TOOL KITS	List	Sale
2401	Constant Speed, 14 Access.	\$50.95	\$32.95
2501	Constant Speed, 14 Access.	62.95	39.95
2701	Constant Speed, 30 Access.	71.95	45.95
3701	Variable Speed, 35 Access.	82.95	52.95
3801	V/Sp., B/Bearing, 35 Access.	94.95	60.95
572	Deluxe Moto-Shop Complete	129.95	84.95
580	4" Tit-Arbor Motorized Table Saw	129.95	84.95
730	Disc-Belt Sander	119.95	78.95
290	Electric Engraver	20.95	14.95

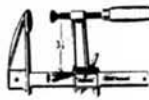
Model	MOTO-FLEX® TOOLS	List	Sale
232	Moto-Flex Tool	\$98.95	\$63.95
332	Variable Speed Moto-Flex Tool	109.95	70.95

Model	MOTO-TOOLS®	List	Sale
250	Moto-Tool (Constant Speed)	\$52.95	33.95
270	Moto-Tool (Constant Speed)	58.95	37.95
280	Constant Speed, Ball Bearing	70.95	45.95
370	Moto-Tool (Variable Speed)	71.95	45.95
380	Variable Speed, Ball Bearing	82.95	52.95



JORGENSEN STEEL BAR CLAMPS Style 37

2 1/2" Throat Bar Size 1/4" x 3/4"	List	Sale	Lots of 6
#3706 6"	\$7.88	\$5.50	\$29.70
#3712 12"	8.73	5.95	32.13
#3718 18"	9.64	6.95	37.53
#3724 24"	10.54	7.35	39.69
#3730 30"	11.76	8.25	44.55
#3736 36"	12.85	8.95	48.33



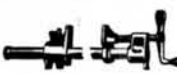
3 1/2" Throat Bar Size 5/16" x 1"

Style 39	List	Sale	Lots of 6
#3906 6"	\$18.89	\$12.95	\$69.95
#3908 8"	19.45	13.50	72.95
#3912 12"	20.69	14.50	78.00
#3918 18"	22.55	15.85	85.50
#3924 24"	24.45	17.25	93.00
#3930 30"	26.16	18.35	99.00



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

Style 45	List	Sale	Lots of 6
#4506 6"	\$22.49	\$15.95	\$86.15
#4508 8"	23.04	16.50	89.10
#4512 12"	23.85	17.50	94.50
#4518 18"	25.16	18.95	102.35
#4524 24"	26.61	20.95	113.15
#4530 30"	28.06	21.95	118.50
#4536 36"	29.54	22.95	123.95



(pipe not included)

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



JORGENSEN PONY SPRING CLAMPS Style 32

Model	List	Sale
#3201 HT-1" w/protected handles/tips 4"	\$1.79	\$1.15
#3202 HT-2" w/protected handles/tips 6"	2.78	1.75
#3203 HT-3" w/protected handles/tips 9"	5.09	3.25
#3204 HT-4" w/protected handles/tips 12"	8.14	5.40



BLACK & DECKER DRILL BIT SHARPENER

Accurately sharpens 1/8" to 1/2". 15 # for easy portability.

Lowest cost professional bit sharpener available.

Model 4300 — List Price \$279.00

SUPER SPECIAL SALE PRICE \$169.00



ELECTRONIC ROUTER 3 1/2 H.P.

The industry's first electronic router with unique electronic motor control. 13 amp — two constant cutting speeds.

Model 3335 — List Price \$458.00

OUR SALE PRICE \$325.00

RECORD BRAND BENCH PLANES

Model	Type	Length	List	Sale
03	Smooth	9 1/2"	\$37.85	\$31.00
04	Smooth	9 3/4"	38.00	31.00
04 1/2	Smooth	10 1/4"	38.00	31.00
05	Jack	14"	48.20	37.00
05 1/2	Jack	15"	56.35	41.00
06	Joiner	18"	70.20	54.00
07	Joiner	22"	80.70	60.00

MILWAUKEE ELECTRIC TOOLS

Model	List	Sale
0222-1 3/8" Hole Shooter H.D. 3.3A	\$136	\$95
0224-1 3/8" Magnum Hole Shooter	144	99
0244-1 1/2" 4.5A H/Shooter 0-600	155	109
0234-1 1/2" Magnum Hole Shooter	155	109
6507 TSC Sawzall w/case	179	120
6511 2 Sp Sawzall w/case	187	117
6365 7-1/4" Circular Saw 13A	149	99
6405 8-1/4" Circular Saw 13A	167	117
6245 3.8 Amp Single Spd Jig Saw	129	91
5900 3" x 24" Belt Sander	311	218
5910 4" x 24" Belt Sander	330	229
5620 1 H.P. 8 AMP Router	215	145
5660 1.50 H.P. 10 AMP Router	239	165
5680 2.00 H.P. 12 AMP Router	299	209
5397 T.S.C. 3/8" Hammer Drill Kit	203	145
5399 1/2" 6.2A HD Hammer Drill Kit	239	169
6750-1 HD Dry/W Shooter 0-4000 rpm	136	95
3102-1 Plumbers Drill Kit 500 rpm-right angle	229	171
3202-1 Plumbers Drill Kit 350 rpm-right angle	239	179
3002-1 Electricians Drill Kit 600 rpm-right angle	225	168
3107-1 H.D. Var. Speed Rev. Drill 0-500 rpm	249	186
3300-1 Magnum-0-850 Kit-right angle	235	176

HEAVY DUTY HOLE-HAWG™

Model	by Milwaukee	List	Sale
1670-1 Single Speed, 900 rpm Rev.		255	191
1675-1 Two-Speed, 1200 & 300 rpm Rev.		295	221
1676-1 Same as 1675-1 but w/steel carry case		319	239

MAKITA ELECTRIC TOOLS

Model	List	Sale
1900BW 3 1/4" Planer w/case	\$149	\$89
1100 3 1/4" Planer Kit	278	178
1805B 6 1/8" Planer Kit	416	285
9900B 3"x21" Dustless Belt Sander	191	127
99240B 3"x24" Dustless Belt Sander	208	139
9401 4"x24" Dustless Belt Sander	273	179
B04510 Finish Sander, Square Base	79	49
B04520 Finish Sander, 5" Round Base	79	51
9045N 4 1/2"x9 1/4" Finish Sand., Dustless	160	110
3608BK 1 H.P. Router — W/Case	128	82
3601B 1 1/4 H.P. Router	196	130
3600B 2 H.P. Plunge Router	299	190
6510LVR 3/8" Rev. Var. Speed Drill	114	68
DP4700 1/2" V.S.R. Drill 4.8 AMP	147	95
2400BW 10" Mitre Box	349	255
60100WK 3/8" Cordless Drill w/case	148	84
4200N 4 3/8" Circular Saw	146	92
4300BV Var. Speed Jig Saw	192	121

BOSCH POWER TOOLS

Model	List	Sale
90900 650° - 900°F H.D. Heat Gun	\$89	\$62
1581 Jig Saw, Single/Speed 3100	199	119
1581VS Jig Saw, Var/Speed Orbital Action	219	129
1582 Jig Saw, Var/Speed Orbital Action	219	129



MITRE SAW

Model 2401 BW-10"

Complete w/elec. brake
& Combination Blade
Cuts 4 1/2" wide @ 90°
Cuts 3 1/2" wide @ 45°
List Price — \$319.00

We Want You As Our Mail Order Customer!

☆☆☆ SPECIAL... \$185.00 ☆☆☆

Carbide Blade for Above- #721412-1. List \$94. Sale \$79.

★ SUPER SPECIALS ★

Model	List	Sale
6377 Milwaukee 7 1/4" Worm Drive Saw	\$220	\$139
6378 Milwaukee 8 1/4" Worm Drive Saw	235	149
7715 9" Dewalt Power Mitre Box	198	145
4015 Black & Decker Finish Sander — 4 1/2" x 11" paper size, 3 AMP, 10,000 O.P.M. — Rated for continuous production use	160	110
552 Skill 6 1/2" 10A 2 1/4 H.P. Saw	148	109
553 Skill 7 1/4" 12A 2 3/4 H.P. Saw	152	96
554 Skill 8 1/4" 13A 2 1/2 H.P. Saw	165	119
6012HDW Cordless 2-Sp. w/crill Drill	164	107

* Special with purchase of above

Leather Holster — \$8 value — ÷ FREE ÷



SKILL BENCHTOP 10" BANDSAW w/free 1" Belt Sanding Access. Set Model 3104

Var. Speed — 13" x 14" Table — 5/8" H.P. Motor
4.2 amp — 10" Throat — 4" depth of cut @ 90°
List Price...\$194.99 • **OUR SALE PRICE...\$159.00**



SKILL BENCHTOP 8 1/4" TABLE SAW w/free Dado Set Model 3102

2 H.P. — 4600 RPM — 10 AMP — 16" x 27"
Table — Key Lock On/Off Switch
List Price...\$189.99 • **OUR SALE PRICE...\$155.00**



SKILLSAW Super Duty Worm Drive Saw

Model List Sale
77 7 1/4" — The Pro's Favorite . \$240. \$139.

Call Toll Free 1-800-328-0457
(while supply lasts)



SKILL CORDLESS DRILL Model 2016

The only cordless tool in the world
offering a variable speed switch, 2
settings, 0-250 rpm & 0-750 rpm
"THE BOAR GUN" — Recharge in one hour —
List Price...\$144.95 • **OUR SALE PRICE...\$ 95.00**

Model	SKILL	List	Sale
2011	3/8" Single Speed Reversible Drill & Screw Driver, 600 rpm . .	\$94.95	\$72.00



NON-TOXIC PARTICLE MASK by 3M Co. Worker Acceptance For Over 20 Years

Model	List	Box of 50	Case of 600
8500	39¢ each	\$10.00	\$89.00

RESPIRATOR — by 3M Co.

Model	List	Box of 15	Case of 180
8560	\$1.39	\$13.50	\$135.00

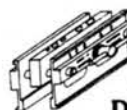
3/8" Cordless Drill and Flash-Light Model 6010DL

3/8" cordless, reversible
drill, screwdriver kit. Easy
handling, beautifully balanced
tool design, weighs only
2.4 lbs. Removable battery
and one hour fast charger.
600 RPM, 7.2 V, D.C. Comes complete with battery
cartridge charger, Phillips bit, chuck key and tool case,
plus rechargeable flash light.
List Price...\$154. • **OUR SALE PRICE...\$88.**

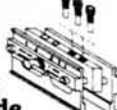


Model #1000

Model #2000



"DOWL-IT" COMPANY Self Centering Dowel Drill Guide



Model	List	Sale
#1000	\$33.95	\$24.95
#2000	42.95	32.95

÷FREE÷ ÷FREE÷ ÷FREE÷
Call our toll-free number to receive your
Bosch Router Bit Chart with our compliments.

★ BRAND NEW ★ by Black & Decker

Model	List	Sale
4010 Palm Grip Finishing Sander 1/4 Sheet, with Bag	\$73.	\$49.

Black & Decker Hammer Gun/Drill Model 5920

3/8" Reversible, 1850 RPM
(no load) 27,750 BPM — Ideal for
use in concrete block!
List Price...\$168.00 • **OUR SALE PRICE...\$129.00**



Black & Decker Model 1975

Professional Cordless
3/8" Reversing Scruddrill
Drill & Screwdriver
Hi-torque Rev. 750 rpm — Versatile!! Converts
from Drill to Screwdriver by flicking a lever.
List Price...\$146.00 • **OUR SALE PRICE...\$100.00**



Black & Decker Model 1405

3/4" (375 rpm Rev.) 10
amp — 1100 Watt output
Triple Gear Reduction. Rated for continuous
heavy duty applications. Has AC/DC Double
pole long lived switches - Wt. 25 #
List Price...\$496.00 • **OUR SALE PRICE...\$330.00**

Black & Decker Model 4020-10

Heavy Duty
Finishing Sander
4 1/2 x 11" — 10,000 OPM. Lifts dust & grit with
unique "Through the Base" extracting system.
List Price...\$161.00 • **OUR SALE PRICE...\$109.00**



PRODUCTION PAPER by 3M Co.

World Renowned for Quality!

Size 9" x 11"
Any 10 sleeves
— (can be assorted) —
deduct additional 10%
discount.

Remember!
We will pay the freight on
every item in this ad!

Grit	Sheets per/Sleeve	Sale Price per/Sleeve
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60x	2.20	12.90	58.40
50x	2.25	13.30	60.75
40x	2.35	13.90	63.15
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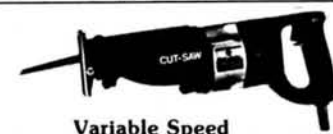
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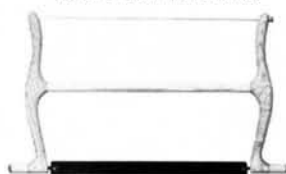
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Restoring Antiques

Some Repair Hints

by John W. Olson

While restoring a French Provincial coffee table, I realized that it would be necessary to replace a few missing parts. One "doe" foot was missing as well as a piece of the "piecrust" molding that formed a border around the table.

I tackled the molding first. The first step required that I make a matching blank from walnut. No effort was made to carve the blank and it was made somewhat thicker, longer and higher than was really necessary. The base of the blank was cut so that it leaned outward at approximately sixty degrees and the ends were tapered to form a scarf joint with the adjacent piece. The faying surfaces of the joints were then carefully fitted and the piece clamped in place for a trial fit. The trial fit is a most important procedure in any repair or building project in which first class work is desired. Any small errors become immediately apparent and they can be corrected before final assembly.

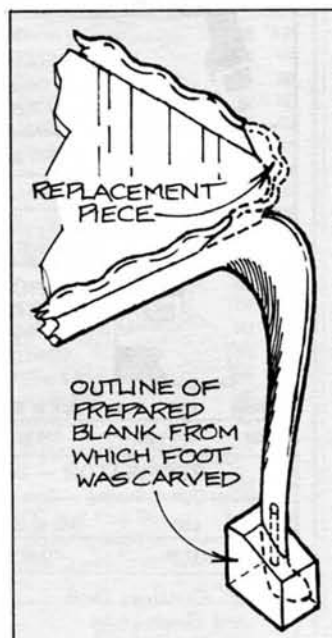
It's time consuming and tedious to make a part, glue it in place, and then wait for it to dry before starting the next. I prefer to make all the parts, then assemble them at the same time. This procedure saves considerable time. With this in mind, I set the blank aside to be glued in place with the foot.

Replacing the missing foot followed the same procedure as was used for the molding. An oversized blank was prepared paying special attention to the faying surfaces within the scarf joint and to the angle of the scarf so that the whole foot would fall within the repair piece. A dowel pin, used to add strength, keeps the block from sliding around as the joint is

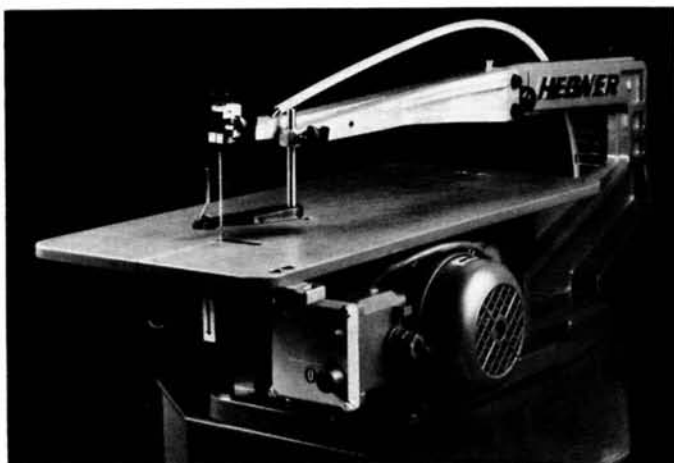
clamped. To place a dowel in the desired position within a repair such as this is easy since the only face that must fit perfectly is the one containing the dowel. Fitting an oversized block and then carving the missing piece is far easier than trying to make a carved piece to fit perfectly.

Both the molding and the foot blanks were then glued in place with epoxy glue. For best results an epoxy joint should not be squeezed too tight. A definite glue line will make a much stronger joint. Epoxy requires at least twenty-four hours to reach a moderate strength. In cold weather (when temperatures are below seventy degrees), it may take several days to a week, sometimes even longer.

I'm not going to try to tell you how to carve matching pieces. There are many good books on wood carving and they can cover the subject in greater detail than I can in this column. Suffice it to say that when preparing the blank you should try to match the grain. Also, make sure that the blanks are large enough and that the scarf is oriented so that all of the final carving will fall within the block. 



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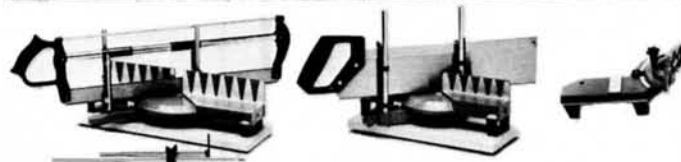
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The Beginning Woodworker

Basic Drawer Construction and Installation

Drawer construction can be as simple or as complicated as you wish to make it, depending on the function, style and quality of the case that will hold the drawers. Basically, a drawer is simply an open box, the sides of which are joined to withstand a considerable amount of pulling and pushing. When opening a heavily loaded drawer, you are literally trying to pull the drawer front off the sides, so it's obvious that the side-front fastening must be strong enough to withstand this stress indefinitely.

Before deciding on the type of joints to use in constructing a drawer, it's necessary to first determine what kind of drawer is needed. The three basic drawer types are:

Flush Drawer. The drawer front is flush with the front of the cabinet or case, or sometimes the drawer front is inset in the opening a very slight amount (about 1/32 inch), which enhances the overall appearance. This type of drawer requires very careful fitting to the opening (Fig. 1A).

the sides of the cabinet or case as shown in Fig. 1C.

All three types have been used in both traditional and contemporary work. The decision as to which type is most suitable for your particular project depends on your personal preference as well as what type of drawer support system is to be used within the cabinet or case.

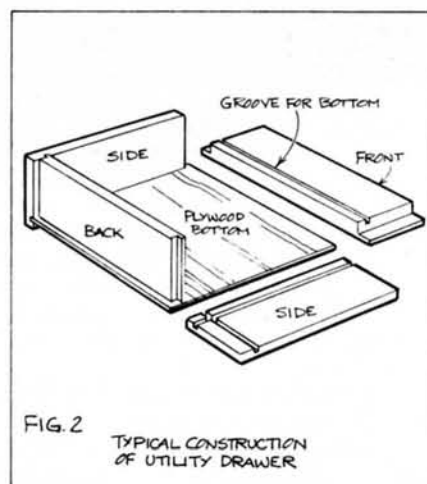


FIG. 2
TYPICAL CONSTRUCTION
OF UTILITY DRAWER

Drawers are usually made up of five parts as shown in Fig. 2, though sometimes the drawer front consists of two pieces with the outer or face piece slightly larger than the inner front so that a lip or rabbet is formed.

Since drawers are subject to a lot of stress and wear, it's important that the materials used in their construction be durable. Drawer fronts are usually 3/4 inch thick though they can be thicker, particularly if of double construction. They can be of solid stock or plywood, usually to match or harmonize with the rest of the cabinet.

Drawer sides are best kept thin, from 3/8 to 1/2 inch, to help reduce the weight of the drawer. The best wood for drawer sides is oak, though other hardwoods or plywood can be used. Pine sides, if in contact with frames or guides, will wear very quickly. Drawer backs are generally of 3/8 or 1/2 inch thickness and are usually of the same wood as the sides.

Drawer bottoms are almost always made of 1/4 inch plywood or hardboard as these materials do not expand or contract in reaction to changes in humidity. For quality work, a good grade of birch or mahogany plywood can be used. Utility drawers, such as those in kitchen or shop cabinets,

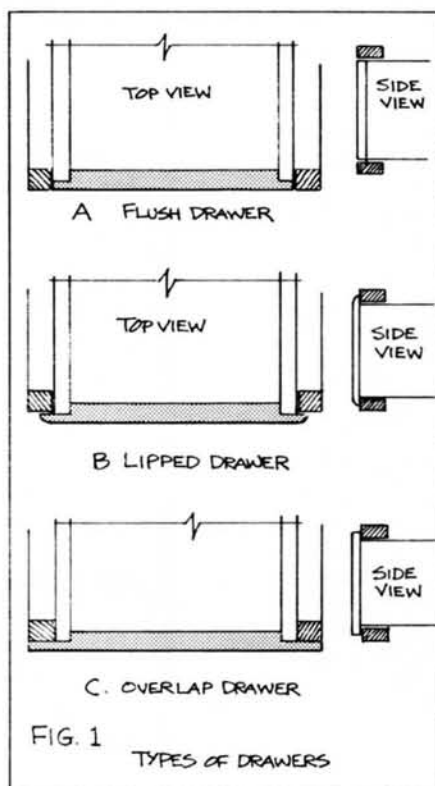
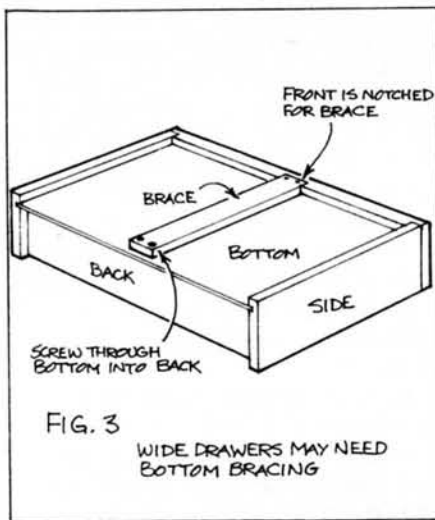


FIG. 1
TYPES OF DRAWERS

Lipped Drawer. This type of drawer has a front which overlaps three or four edges of the drawer opening (Fig. 1B).

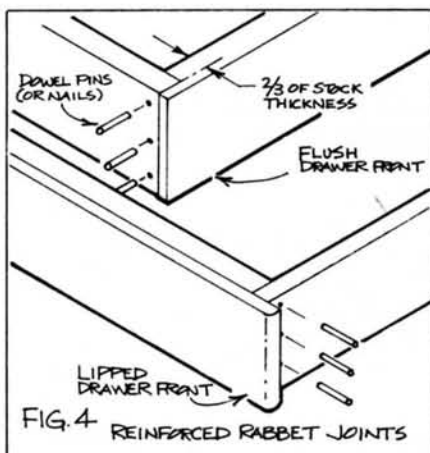
Overlap Drawer. On this version, the end of the drawer front overlaps

fir plywood. If drawers are very wide and will support heavy loads, it's usually best to add one or more reinforcing strips across the bottom as shown in Fig. 3, rather than using a thicker plywood bottom.



The choice of joints for fastening drawer parts together depends on the quality of the drawers, their required strength and, from a practical point of view, the amount of time you are willing to spend on making them. Obviously, you would not choose nail-reinforced butt joints for the drawers of a fine antique reproduction anymore than you would use hand-cut dovetails for the many drawers of a shop storage cabinet.

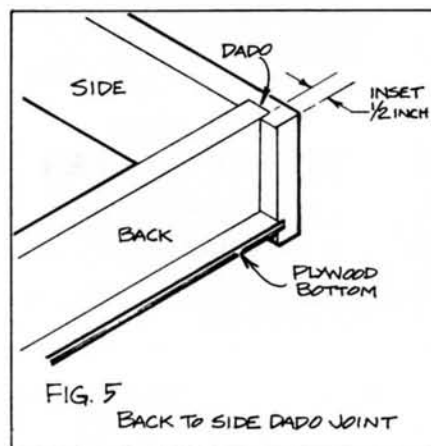
For simple utility drawers, the nailed, or better still, dowel-reinforced rabbet joint is a good choice for joining the front to the side (Fig. 4). As shown, this joint can be used for either flush or lipped drawers by adjusting the width of the rabbet.



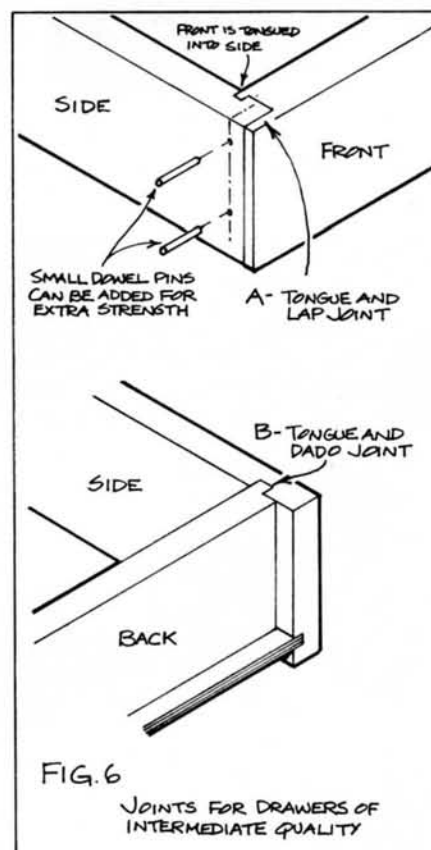
An appropriate method for joining the back to the sides is simply to dado the sides to receive the full thickness of the back (Fig. 5). It's customary to cut the dados so that the back is inset about 1/2 inch from the ends of the

drawer sides.

The bottom is held in place by cutting grooves in both sides and the



front. This is done before the drawer parts are assembled, a 1/4 x 1/4 inch groove being cut as shown in Fig. 2, using a tablesaw and dado head, or by using a router and 1/4 inch straight bit.



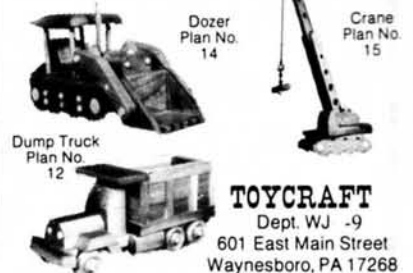
Note that the drawer back is not grooved but instead is butted against the bottom which is nailed to it. This type of construction, though low on the quality scale, is simple, durable and perfectly appropriate for utility or so-called primitive country furniture.

From the standpoint of quality, an intermediate type of front to side joint is shown in Fig. 6A. Although the

(continued on next page)

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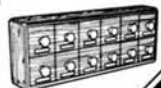


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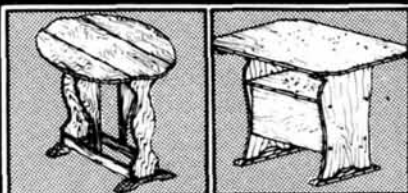
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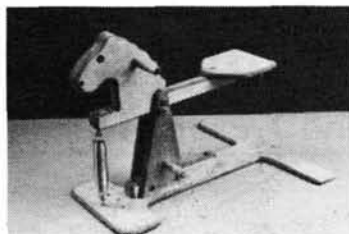


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The Beginning Woodworker, (Cont'd)

small tongue on the drawer front helps resist the front pulling loose, this joint is not as strong as the doweled rabbet joint because there is end grain glued to long grain which is not a good gluing situation. However, the joint is satisfactory for drawers in good quality cabinets that will not be subject to heavy loading. Considerable extra strength can be provided by the addition of two or three dowel pins as shown with the rabbet joint.

On the same quality level, a good back to side joint is the tongue and dado joint shown in Fig. 6B. Again, note that the back is inset from the ends of the sides though it can also be flush.

A good cabinet grade of plywood should be used for the bottom and you have the option of grooving the sides and front to hold the bottom as was shown for the utility drawer, or you may choose to groove the front, sides and back which is the method used in the highest quality construction. Housing the bottom all around does require that the entire drawer assembly be glued and clamped up at once.

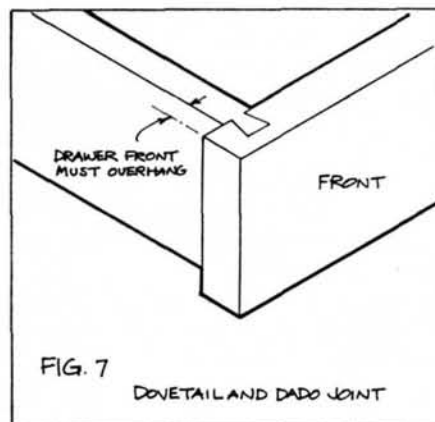
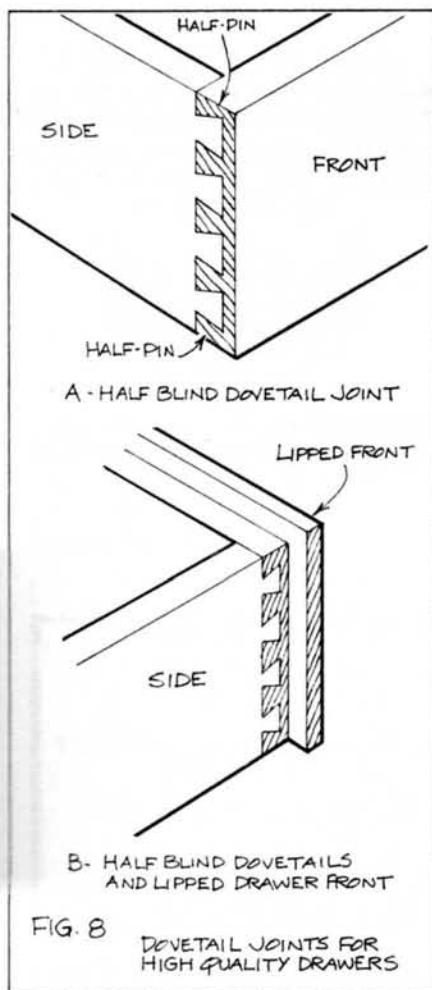


Fig. 7 shows yet another way to fasten the sides to the front. This dovetail dado joint has both strength and elegance and is relatively simple to make using a router and a dovetail bit. This joint does require a bit of overhang at each end of the drawer front; otherwise the inside corner of the front is likely to break off at the dado.

If you are set up with a router to do the dovetail dado joint, you may as well use it to join the back to the sides, again setting the back in a bit from the ends of the sides.

If the drawers you are building are to be of the highest quality, the fronts should be joined to the sides with half-blind dovetails (Fig. 8A). Lipped drawer fronts can also be dovetailed as shown in Fig. 8B. Cutting these joints

by hand as described in the Sept./Oct. 1983 issue, is time consuming, though many woodworkers consider the work very satisfying. If you've got to do a lot of them, the best approach is to cut them with a router and dovetail jig. These jigs average about sixty dollars and are well worth the expense, as once set up, a large number of perfectly fitted dovetail joints can be turned out in either flush or lipped form. Instructions for setting up and using the jig are included and vary somewhat depending on the manufacturer.



Using a dovetail jig and router, you may as well join the back to the sides with the same dovetail joint. One disadvantage of machine-made dovetails is that they are too uniform and therefore do not look as interesting as the hand-cut version. Another problem is that you must plan the height of the drawer opening ahead of time if you want the dovetail joints to end with a half-pin at the top and bottom as shown in Fig. 8A. This is strictly for appearance though, and has no bearing on the strength of the joint.

High quality dovetailed drawers should have plywood bottoms which fit into grooves cut in the front, back

(continued on next page)

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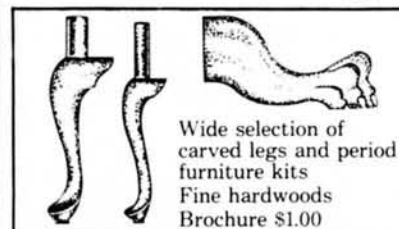


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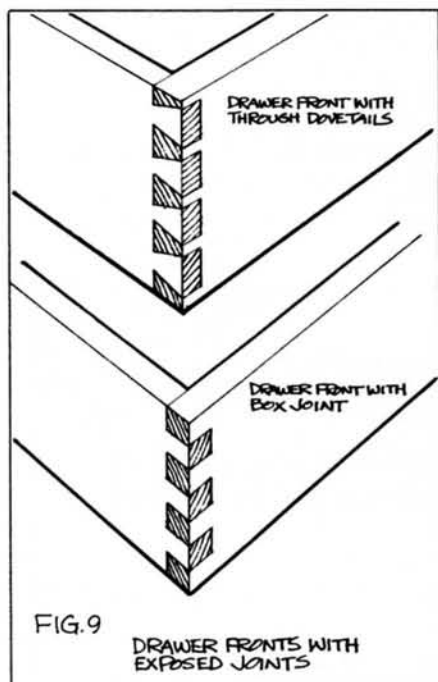
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Beginning Woodworker (cont'd)

and both sides. Although drawer bottoms should not be glued into their grooves, it's important that they fit without slop as otherwise they may rattle.



The various drawer construction methods discussed here are those that are in general use. Of course, there are situations where different methods must be used, such as when building tiny drawers for jewelry boxes where the use of strong joints is not necessary or practical. Also, in much contemporary work, which emphasizes joinery, box joints or through dovetails are cut so that they show on the drawer fronts (Fig. 9).

Drawer Installation

Drawers need some sort of support or guide to carry the weight of the drawer and help it to slide smoothly without twisting and jamming in the opening. The type of support and/or guide system used will depend to a great extent on the construction of the cabinet or case.

One method which both supports the weight of the drawers and guides them is the use of side hung guides as shown in Fig. 10 A and B. Cleats can be attached to the drawer sides and ride in dados routed in the case sides as shown in A, or the drawer sides can be grooved to ride on cleats screwed to the case sides as shown in B.

If method A is used, the drawer fronts must overlap the case sides as shown to conceal the dados. If the drawer front must fit flush within the case, method B is used, except that the cleat is set back from the front edges of

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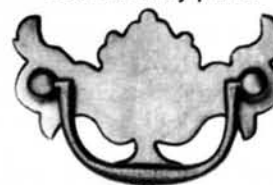
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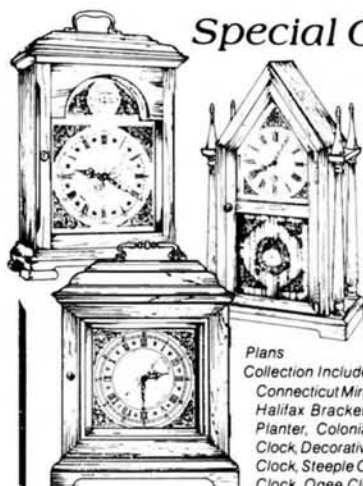
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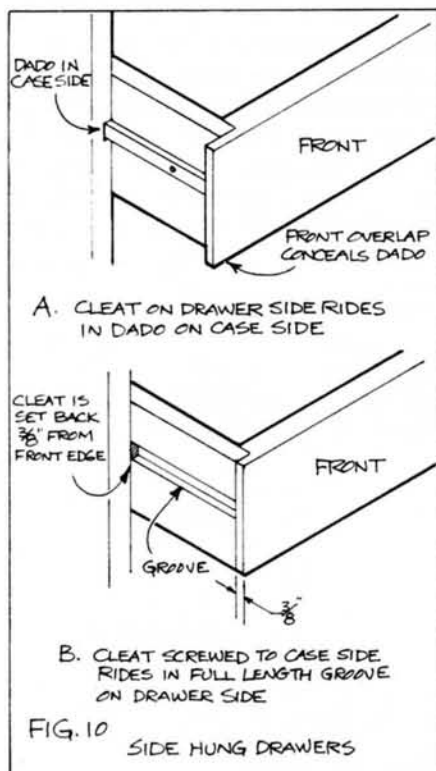
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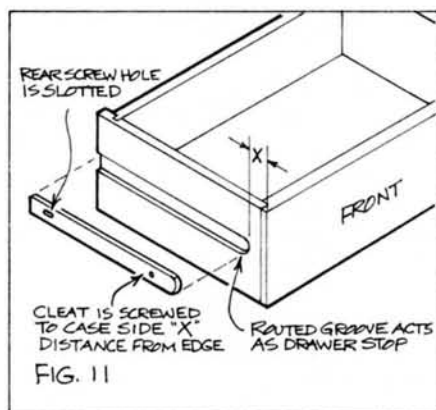
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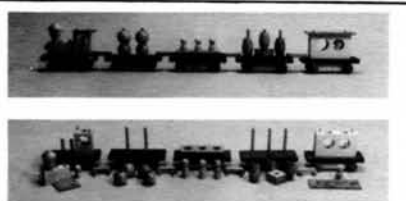
the case a sufficient distance to allow the drawer front to fully recess. In this situation, the grooves in the drawer sides can be routed to function as drawer stops (Fig. 11).



The side hung method is simple to make and provides for smooth drawer operation. It also prevents the drawer from tipping down as it is withdrawn from the case. However, it is not a good method to use if the drawer is to contain heavy loads, as considerable friction is generated and the guide system, which must always be made of hardwood, will quickly wear. Another consideration is whether the case itself has sufficient stiffness without the addition of a cross-frame system, which if needed can also be used for drawer support.

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(continued on next page)



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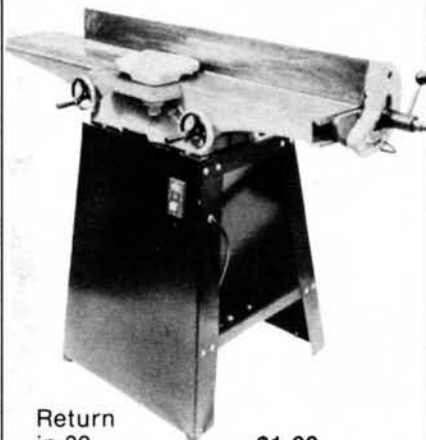
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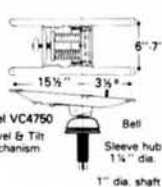
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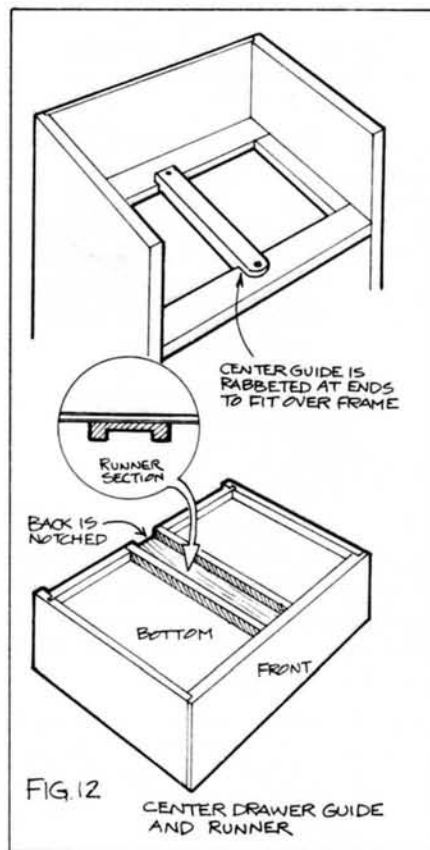
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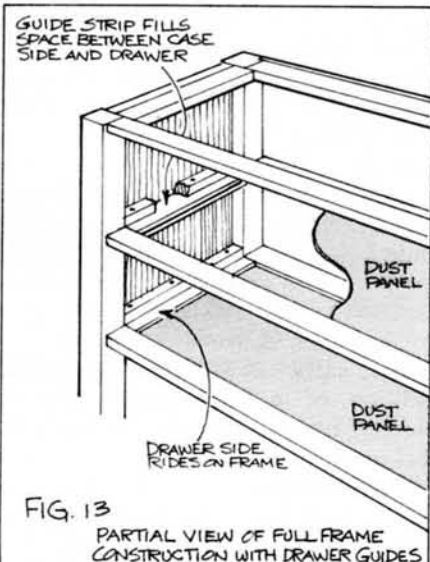
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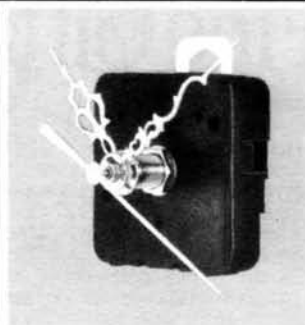
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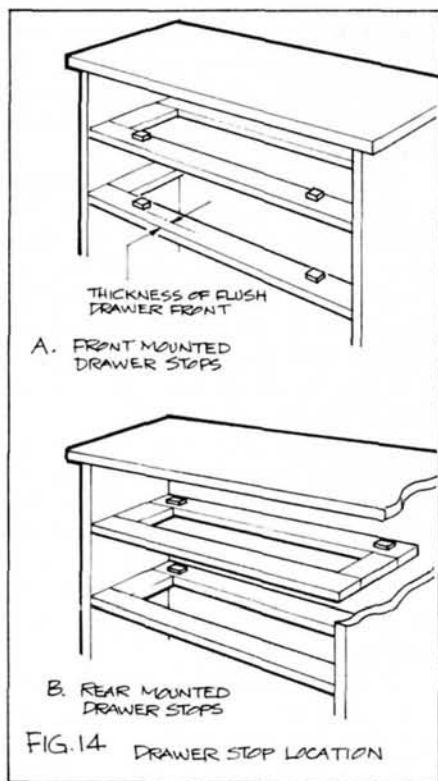
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If the drawer back extends below the bottom, it will hit the stops unless notches are cut to clear them. An alternative, if there is enough room, is to mount the stops on the drawer frame close to, but not touching the back of the cabinet so that the drawer sides or back butt against them (Fig. 14 B).

Drawer Construction

The following sequence of operations will prove helpful in constructing well-fitted drawers. Even if two or more drawers are supposed to be exactly the same size, it's advisable (and usually necessary) that each drawer be built to fit a specific opening

1. Carefully measure the height and width of the opening as well as the distance from front to back. Do not allow the drawer to butt against the back of the case; it should be stopped at least $\frac{1}{2}$ inch short of the back panel.

2. Cut all drawer parts to rough

(continued on next page)

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length and width. The drawer front, if flush, should be cut to fit in the opening with very little clearance at the ends and along the top. If the case and drawer fronts are to be painted, it's best to allow about 1/16 inch clearance; otherwise allow 1/32 inch. For a lipped front, cut the rabbet to form the lip before fitting to the opening

3. Cut the side to front joints, then cut the joints to fasten the back to the sides. When cutting the back to length, some craftsmen deduct about 1/16 inch from the finish length so when the drawer is assembled, the back end is very slightly narrower than the front. This helps to insure that the drawer will slide smoothly.

4. The front and sides are grooved to receive the bottom. The grooves should be cut at least 1/4 inch up from the bottom edges and should be sized to take the bottom with a slip fit. The bottom is never glued into these grooves. Highest quality drawers will have the backs grooved also so all edges of the bottom are held.

5. Utility and medium quality drawers are assembled by gluing the sides to the front. The back is then added and the bottom is slipped into place under the back. A bit of wax on the bottom edge will help ease it into the grooves and prevent glue from sticking at the joints.

Clamp the assembly where necessary, and check carefully to make sure that the assembly remains flat and square (allowing for a slight front-to-back taper). Utility drawers should have rabbeted side-front joints reinforced with nails, screws or dowel pins added after the glue cures. Fasten bottoms to the back with a few box nails

For high quality dovetailed drawers, assemble the front to the sides, then add the bottom and back. With machine-cut dovetail joints, it should not be necessary to clamp up the assembly but it should be carefully checked for squareness and flatness. If the drawer sides need to be routed for side hung guides, this is more conveniently done before assembly.

6. Cleats for side hung drawers are added. If the drawer is to have a center guide runner, glue it to the underside, perfectly square to the front. If the drawer back is grooved to hold the bottom, it must be notched to clear the guide strip mounted in the case. Many craftsmen take the time to round off the upper edges of the sides and back which improves the appearance of the drawer.

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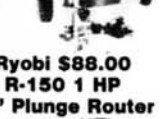
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Making a Raised Arched Panel



Spindle shapers and their panel cutters do most of the work today in making raised panels with arched tops. But the bevel junctions to the sides of the arch still have to be finished by hand. There is no reason, then, why you couldn't do the entire panel with a table saw, a router, and a few common hand tools.

Before tackling this kind of panel, careful thought has to be given to the panel layout. But if you are looking for rules governing the size of the arch and the bevels, there are none that I know of. Proportions can differ considerably, as shown in illustrations A and B. A is typical of what is done with shapers today, and B reflects an older style found on early furniture. Also to be figured are bevel widths and their slopes, and shoulder height.

Determining the size of the raised panel depends on the overall door dimensions. First, the size of the rails and stiles must be decided on. A good rule of thumb is that the width of the bottom or lower rail be the same width

as the distance between the high point of the exposed arch and the top of the upper rail.

This leads to another consideration; raised panels are usually recessed into the rails and stiles, resulting in part

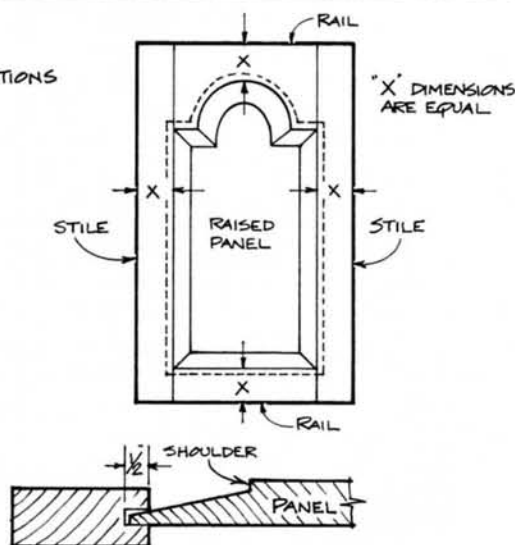
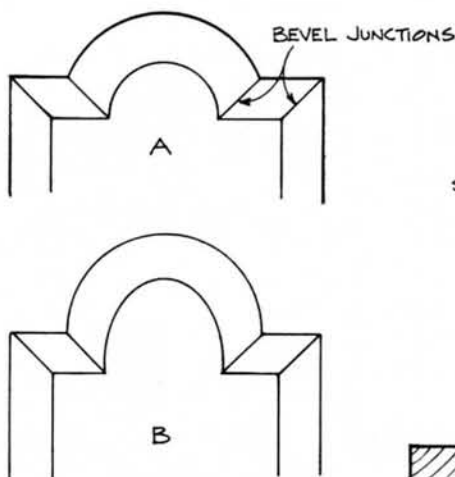
of the bevels being hidden or recessed in their grooves. Dimensions, then, have to be adjusted as to how much of the bevel you want exposed. But regardless of panel dimensions, the groove depth should not have to exceed $\frac{1}{2}$ inch, with only $\frac{3}{8}$ inch of the panel recessed. The width of the groove depends on the bevel slope and thickness of the panel.

These dimensions, and the slope of the bevel, are critical if you want to create free-floating panels. This is a practice that allows the panel to rest in the rails and stiles without glue, yet be snug enough to prevent rattling, even if the panel shrinks after a time. If you were to glue the panel in place, it or the stiles would probably crack.

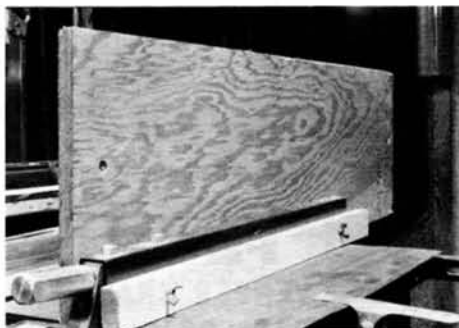
Once you have reconciled all these problems, lay out your bevel and arch lines on the lumber. It will also be necessary to lay out the arch's arcs on the reverse side in the exact position as on the front of the panel for a later step will obliterate the lines on the front before you can bandsaw the arch profile.

Setting up the table saw is next. The height of the blade, its angle, and its distance from the fence must be determined. The existing fence height is not enough to ensure a safe pass of the panel through the blade, so a fence as high or higher than the panel must be added. A $\frac{3}{4}$ inch piece of plywood bolted through the steel fence to a piece of scrap wood is what I use. A framing square can be utilized to determine the height of the blade and its distance from the fence.

There is another problem that has to be accounted for. Because there is a gap between the table insert and the blade, there is a real risk of the panel slipping down into the opening, which will ruin the piece and perhaps your



hand since the guard must be removed to cut raised panels. The solution comes in the form of a thin piece of Formica that can be slipped under the fence and pushed as close as possible to the blade to close up the gap. If the Formica is wide enough, it can be clamped on the opposite side of the rip fence. Also, it will affect the height of the saw cut only slightly.



Auxiliary fence setup. Note the sheet of Formica slipped under the fences.

The strategy now is to have the blade establish the bevels and the shoulder profile at the same time. Usually angles between 20 and 25 degrees will do this, though the waste wood may not be removed in one pass, or the shoulder will not be high enough. Moving the fence away from the blade slightly and making another pass will solve this problem.



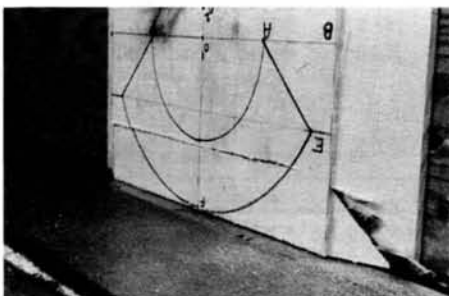
The initial cuts with the table saw blade at an angle, form the bevel along the sides and bottom of the panel.

With the arch profile still not bandsawed to shape, run the panel through the saw on its sides and on the bottom to remove waste wood from the bevel. To help establish the bevel of the arch and arch sides, and to remove as much waste as possible, you are going to be making three or more passes through the blade. One pass is to remove wood from the top of the arch, the other two to remove wood from the arch's sides.

Because it would be awkward to pass the panel on the single point of the arch's top, the panel is left in its rectangular shape to provide more bearing surface. After that pass is made through the saw blade, much of

the arch's lines are removed. This is why you put in the lines on the back of the panel. Going by these lines, band-saw the profile of the arch to shape.

To make the remaining passes, rest the panel so one top edge and one point of the arch touch the table. Push it through the saw and reverse the panel so the other side of the arch has waste removed at a comparable angle.



A bevel cut straight across the top end of the panel removes waste from the top of the arch.



The arch is bandsawed to shape and the panel is tilted for the next cut which removes waste along one side of the arch.



The panel is tilted in the opposite direction to remove waste along the other side of the arch.

The next step is making the shoulders 90 degrees to the flat surfaces of the panel. A table or radial arm saw is usually used for the straight edges, but for the arch you will need a plywood template, a router and a guide bushing. The template, no less than 1/4 inch thick, can be made to square up all the shoulders (sides, bottom and arch). But it must be reduced by 1/16 inch all around to allow for the thickness of the bushing collar. A carbide

(continued on page 33)

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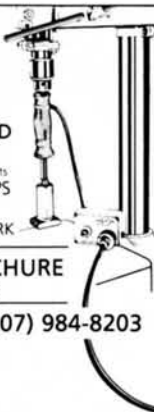


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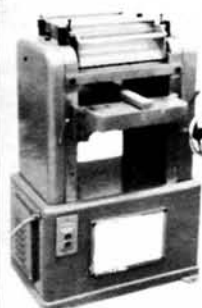
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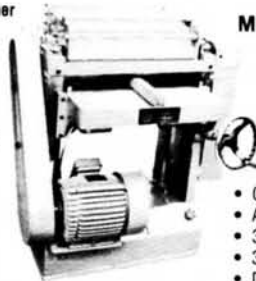
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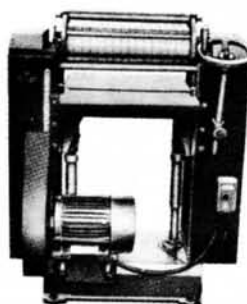
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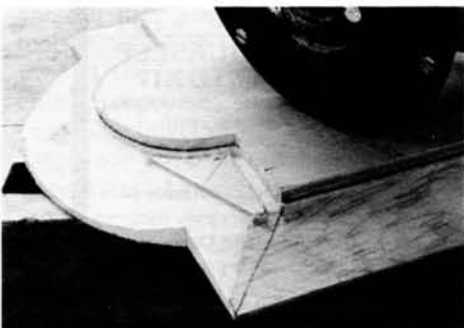


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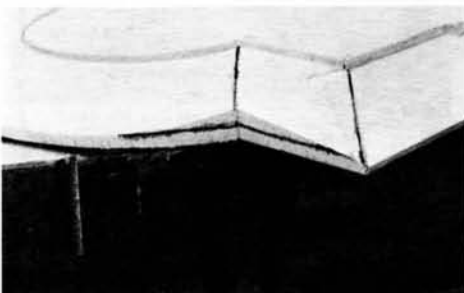
Special Techniques (Cont'd)

1/4 inch straight bit can be used for the cutting.

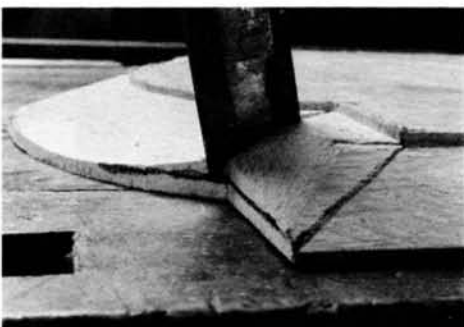


Plywood template clamped to the panel serves as a guide for routing the shoulders of the raised portion.

Before you begin shaping the arch and adjoining bevels, you will have to mark the bevel junction lines and then, on the panel's edge, a line that indicates the entire edge thickness of the panel's arch and sides. This edge thickness will equal the side and bottom edges.



As a guide for carving, the bevel junction lines and edge thickness are marked.



A vertical chisel cut establishes the depth of the bevel to be carved.

To get those bevel junctions sharp at either side of the arch, you will have to use a straight chisel (carpenter's or carver's) and cut straight down into the wood to the depth of the slope from the edge of the shoulder to the line you drew around the edge. It is not critical, however, if you cut in beyond that depth.

(continued on page 35)

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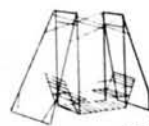
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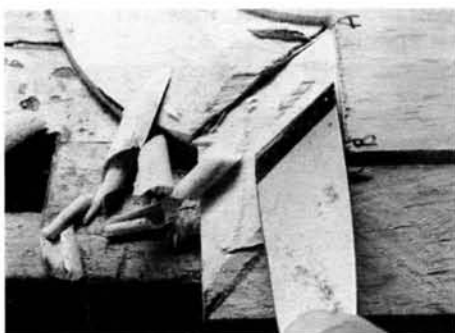
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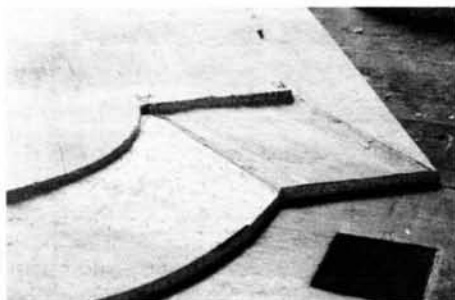
Whatever tools you use for the shaping, it cannot be emphasized enough that you need sharp cutting tools. Of all I've used for this kind of project, the best has been a large skew chisel, especially for softwoods like pine. The bevel of the skew should be long since you are paring or slicing the wood away. A paring chisel could work but it cannot get into the bevel junctions the way a skew can. If you can't get either of these, you could make do with a carpenter's chisel. The goal, then, of the chiseling or paring is to create a uniformly flat bevel from the bottom edge of the shoulder to the line drawn on the edge.



The skew chisel is used to cut the flat between the bevel junctions.



Paring the bevel around the arch.



A carved arch and bevel junction before cleanup with file and sandpaper.

Cleaning up can be done with a flat file while the bevel junctions can be better defined with a small triangular

(continued on page 37)

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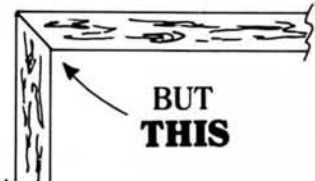
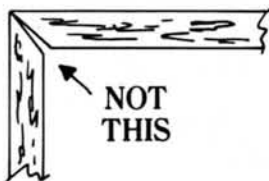
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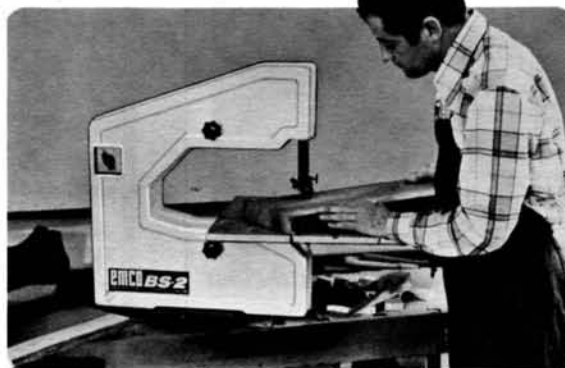
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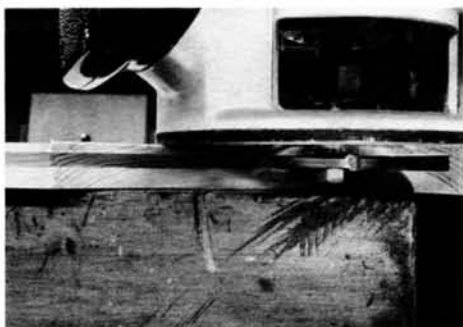
file. Sanding is the last step to remove file marks.

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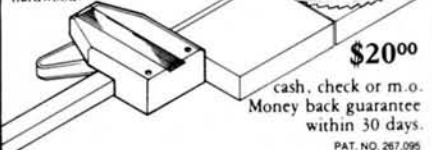
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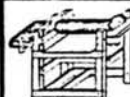
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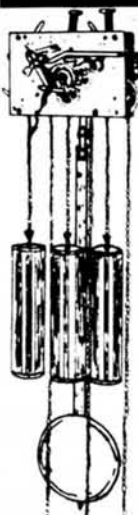
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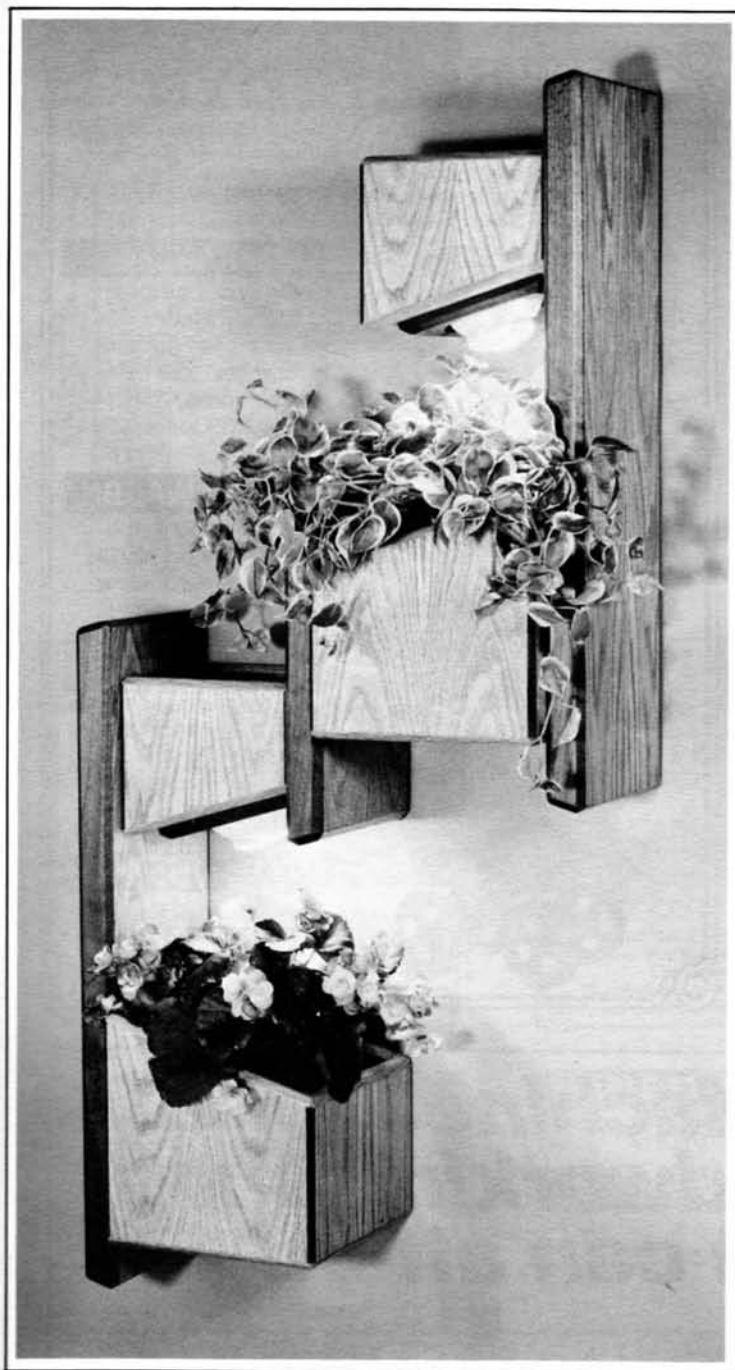
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Lighted Wall Planter

Oak plywood is combined with oak and walnut edging, to create this exceptionally handsome piece. It needs no additional superlatives from us—we'll simply let the photograph speak for itself.

The ends (parts A) and the center (part B) are made first. Note that both parts consist of two pieces of $\frac{3}{4}$ in. thick oak plywood face glued together. Most local lumber yards will order oak plywood for you if it's not carried in stock. It can also be ordered via mail-order from the company, Constantine, 2050 Eastchester Road, Bronx, NY 10461.

Cut each piece of plywood to approximately $\frac{1}{4}$ in. over the length and width shown in the bill of materials. Apply a thin coat of glue to the mating surfaces, then clamp securely using clamp pads to protect the oak surfaces.

units, parts D, are made next. All box units are made from $\frac{3}{4}$ in. thick plywood. Cut parts C to $7\frac{1}{4}$ in. wide by $5\frac{1}{2}$ in. long, and parts D to $8\frac{3}{4}$ in. wide by $8\frac{1}{8}$ in. long.

Note that the corners of each box unit are mitered at 45 degrees. Set up the table or radial-arm saw to make this cut, then make a few test cuts on scrap stock to check the accuracy of the angle. If the set-up looks satisfactory, cut the miters on the corners as shown.

The mitered corners have a $\frac{1}{8}$ in. thick hardboard spline added to increase strength (see detail of corner construction). Cut the grooves for the splines, then cut the splines from $\frac{1}{8}$ in. thick hardboard.

Next, at a point $\frac{3}{8}$ in. from the edge, cut a $\frac{1}{4}$ in. wide by $\frac{1}{4}$ in. deep groove for the panels (parts E and F). Note that on the small boxes the panel will be located at the top—on the large boxes the panel will be located on the bottom.

Now, dry assemble the boxes with the splines and panels in place. Use masking tape to secure the joints so that the boxes are rigid.

The boxes can now be cut at a 15 degree angle as shown. Using the table saw, set the miter gauge to 15 degrees and raise the blade to its maximum height. Pass the box over the blade, then flip the piece and make the same cut on the opposite side. The box is too wide to be separated by the two cuts, so you'll need to complete the cut using a dovetail saw. Once cut, use a sanding block to carefully smooth and flatten the area cut by the dovetail saw.

The various edging stock can now be cut. You'll need about $4\frac{1}{2}$ feet of $\frac{3}{8}$ in. thick by $1\frac{3}{4}$ in. wide oak (parts G) for each end of the vertical members (parts A and B), about 11 feet of $\frac{3}{8}$ in. thick by $1\frac{3}{4}$ in. wide walnut (parts H) for the front and back of the vertical members, about 24 feet of $\frac{3}{8}$ in. thick by 1 in. wide oak (parts I) for the edges of the small and large boxes, and about 8 feet of $\frac{3}{8}$ in. by $\frac{3}{8}$ in. walnut (parts J) for the box edging. Note that all edging is cut wider than necessary to allow for later trimming.

Next, set the saw blade to an angle of 15 degrees and trim the vertical ends and center (parts A and B) to final length. The oak edging (parts G) can now be glued to each end.

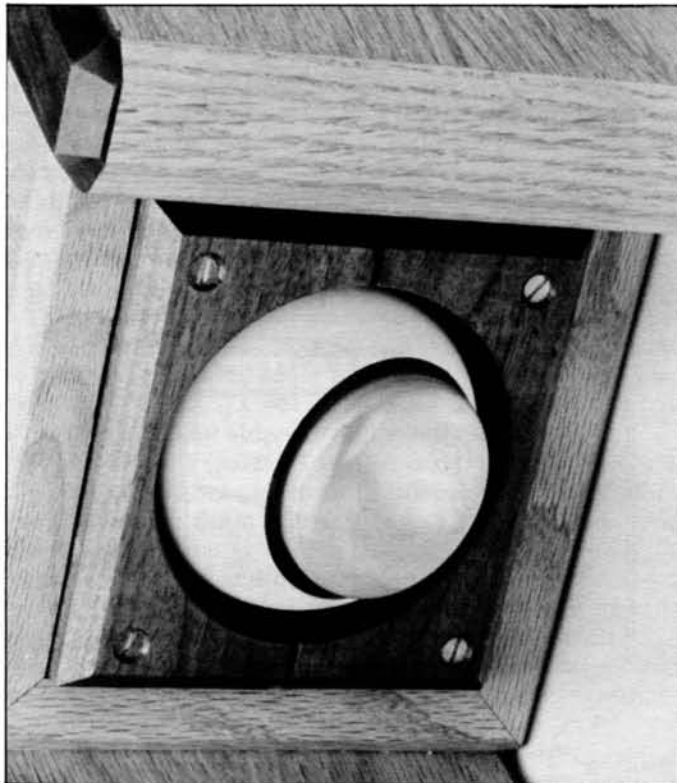
Once dry, use a hand plane or router equipped with a laminate trimmer to trim the edging flush all around. Parts

Bill of Materials (All Dimensions Actual)

Part	Description	Size	No. Req'd
A	Vertical End	$1\frac{1}{2} \times 7\frac{3}{8} \times 24\frac{3}{4}$	2
B	Vertical Center	$1\frac{1}{2} \times 7\frac{3}{8} \times 12\frac{3}{8}$	1
C	Small Box Sides	$\frac{3}{4} \times 7\frac{1}{4} \times 5\frac{1}{2}$	8
D	Large Box Sides	$\frac{3}{4} \times 8\frac{3}{4} \times 8\frac{1}{8}$	8
E	Small Box Panel	$\frac{1}{4} \times 6\frac{1}{8} \times 6\frac{1}{8}$	2
F	Large Box Panel	$\frac{1}{4} \times 7\frac{3}{8} \times 7\frac{3}{8}$	2
G	Oak Edging	$\frac{3}{8} \times 1\frac{1}{2}$	As Req'd
H	Walnut Edging	$\frac{3}{8} \times 1\frac{1}{2}$	As Req'd
I	Oak Box Edging	$\frac{3}{8} \times \frac{3}{4}$	As Req'd
J	Box Corner Edging	$\frac{1}{4} \times \frac{1}{4}$	As Req'd
K	Fixture Panel	$\frac{1}{2} \times 6\frac{1}{4} \times 6\frac{1}{4}$	2
L	Bezel	(See Detail)	2
M	Light Fixture		2

A and B can now be ripped to final width (make sure the ends of the edging are trimmed flush before ripping, otherwise the stock won't butt against the rip fence). After ripping, the walnut edging (parts H) can be glued and trimmed in the same manner.

Remove the masking tape and disassemble the boxes. Add glue to the spline joints, then reassemble and clamp.



The panels (parts E and F) must be included, however there's no need to glue them in place. If you have them, web clamps are ideal for this type of clamping job, although masking tape can also be used to pull the joints closed.

Next, cut the $\frac{1}{4}$ in. by $\frac{1}{4}$ in. groove for the box corner edging (parts J). Use a router or table saw equipped with a dado head cutter to form this groove, then glue the corner edging in place. Once dry, trim the edging flush with a hand plane or laminate trimmer bit.

A $\frac{1}{2}$ in. deep by $\frac{3}{8}$ in. wide rabbet can now be cut on the angled edge of the small boxes (see Detail: Light Box). If you have a router table, it can be put to good use here, although you'll have to change the location of the fence as you cut around the box. Another option is to use a sharp chisel to chop out the rabbet.

The fixture panel (part K) is next. Cut a piece of $\frac{1}{2}$ in. thick hardwood plywood to fit just inside the rabbet. A piece $6\frac{1}{4}$ in square should be just about right. Once fit, use a compass to scribe a 4 in. diameter circle in the center of the piece, then cut out using a hole cutter or saber saw. Following this, use a router equipped with a piloted rabbet bit to cut a $\frac{1}{16}$ in. deep recess all around for the light fixture. The fixture panel can now be glued in place.

The oak box edging (I) is now added to the boxes. Carefully miter each corner at 45 degrees, then glue in place. A few small finishing nails can be used to temporarily hold the edging as it dries.

The bezel (part L) is made to the dimensions shown in the detail. Use a hole cutter or saber saw to make the 4 in. diameter hole. You'll probably find that it's less likely to split if you cut the hole in oversized stock, then trim it to $5\frac{1}{2}$ in. square. You can also cut the hole by faceplate turning the bezel on a lathe.

Once the hole has been cut, split the piece in two using the table saw, then drill and countersink for wood screws as

shown.

A router equipped with a $\frac{3}{8}$ in. piloted chamfering bit is used to apply a $\frac{3}{8}$ in. chamfer to all edges shown on the drawing. All parts can then be given a thorough sanding.

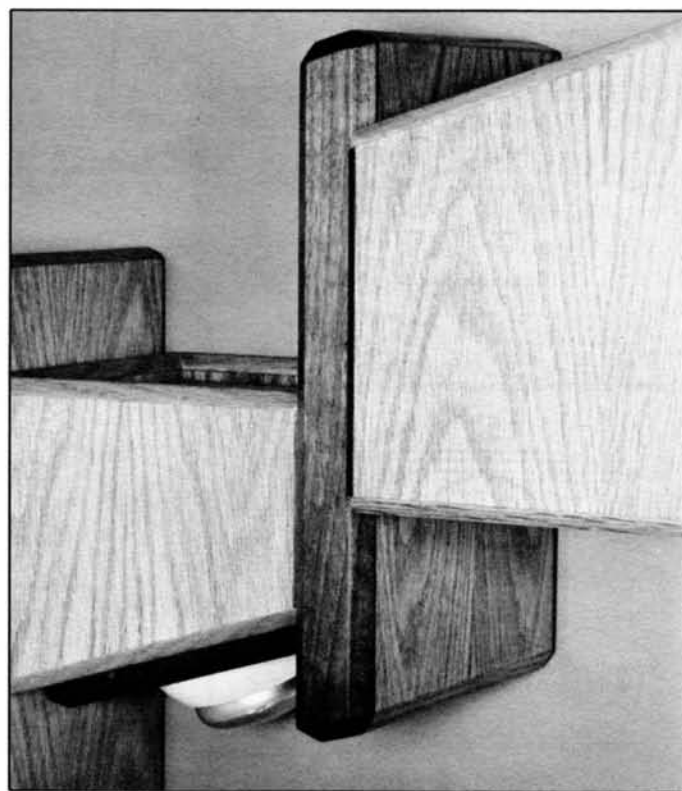
Assemble the parts as shown. Use glue and clamp securely. It will be helpful to drive several small brads, then clip the heads off so that about $\frac{1}{8}$ in. is exposed. When the parts are assembled and clamped, the brads will keep them from slipping out of position.

Once dry, a $\frac{1}{2}$ in. deep by $\frac{3}{8}$ in. wide groove is cut along the back side for the wiring. The path of the cut is shown on the drawing. A $\frac{5}{8}$ in. diameter straight router bit will cut the groove in short order. You'll also need to drill a $\frac{3}{8}$ in. hole through the back of both small boxes for the wires to go through, and a $\frac{1}{2}$ in. hole in the lower small box panel for the toggle switch.

We've included a diagram to show the wiring layout. Take your time and do a neat and careful job. Sloppy wiring causes fires. If you're not experienced in electrical work, have a licenced electrician do it for you.

Eyeball style light fixtures are available at just about any electrical store. Note that the edges of the fixture must be trimmed to fit inside the box. The addition of a pair of 50 watt "GRO" lights helps keep the plants healthy.

Although the planter can be wired to a plug which inserts into a standard wall outlet, we chose to wire ours through the wall to a junction box. This method eliminates having a cord that shows. If you use the latter method, check local codes as they may require that this be done by a licenced electrician.

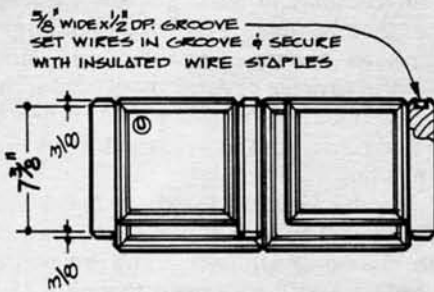


This project is fairly heavy, so it's important that a sturdy fastening system be used to hang it on a wall. We chose bed fasteners sold by The Wise Company, 6503 St. Claude Ave., Arabi, LA 70032. Their p/n B12 contains four post plates and four hook plates.

Mortise the post plates into the project, 16 in. on center as shown. A secondary mortise will have to be added so that the hooks can fit in place. The hook plates can then be secured to the wall studs, 16 in. on center.

Final sand all parts. For a clear finish we applied several coats of Waterlox, a penetrating oil that offers excellent moisture protection.

(continued on next page)



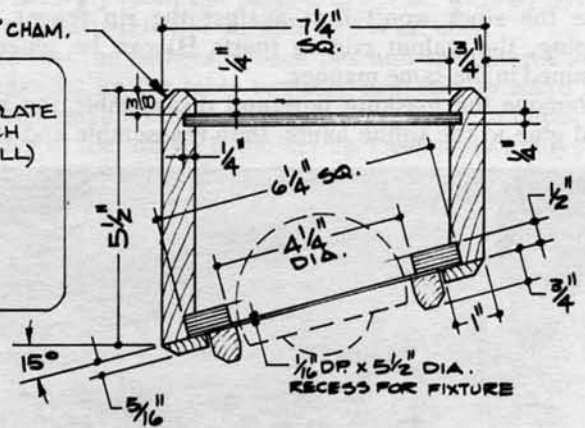
TOP VIEW

DETAIL: HANGER PLATES

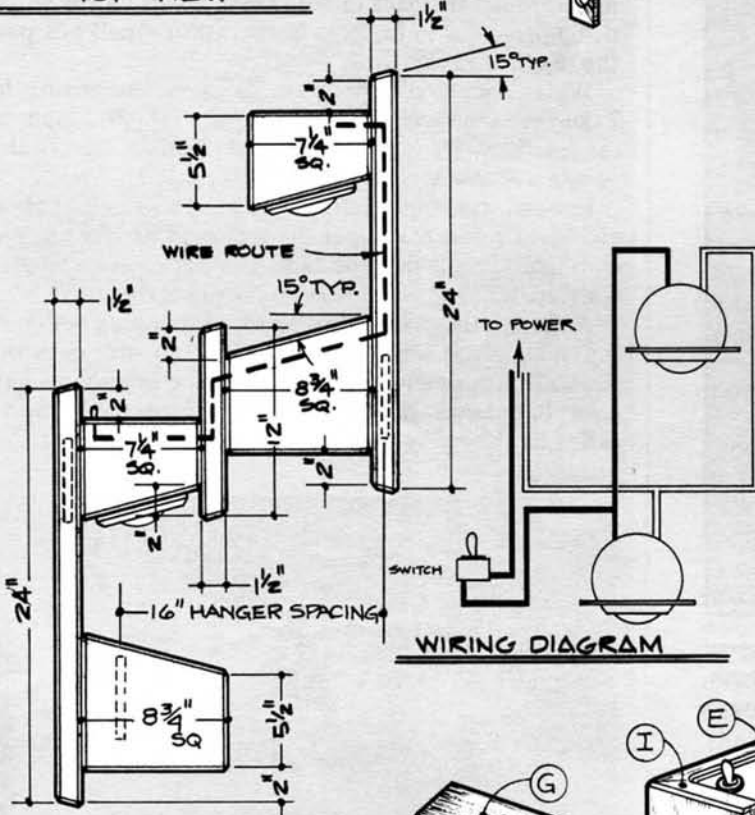
POST PLATE
(MORTISED
INTO UNIT)

HOOK PLATE
(ATTACH
TO WALL)

$\frac{3}{8}$ " $\times$ 45° CHAM.

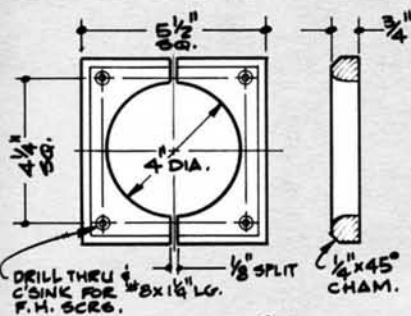


DETAIL: LIGHT BOX

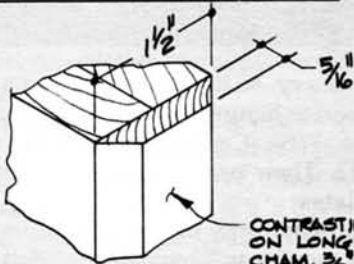


WIRING DIAGRAM

FRONT ELEVATION

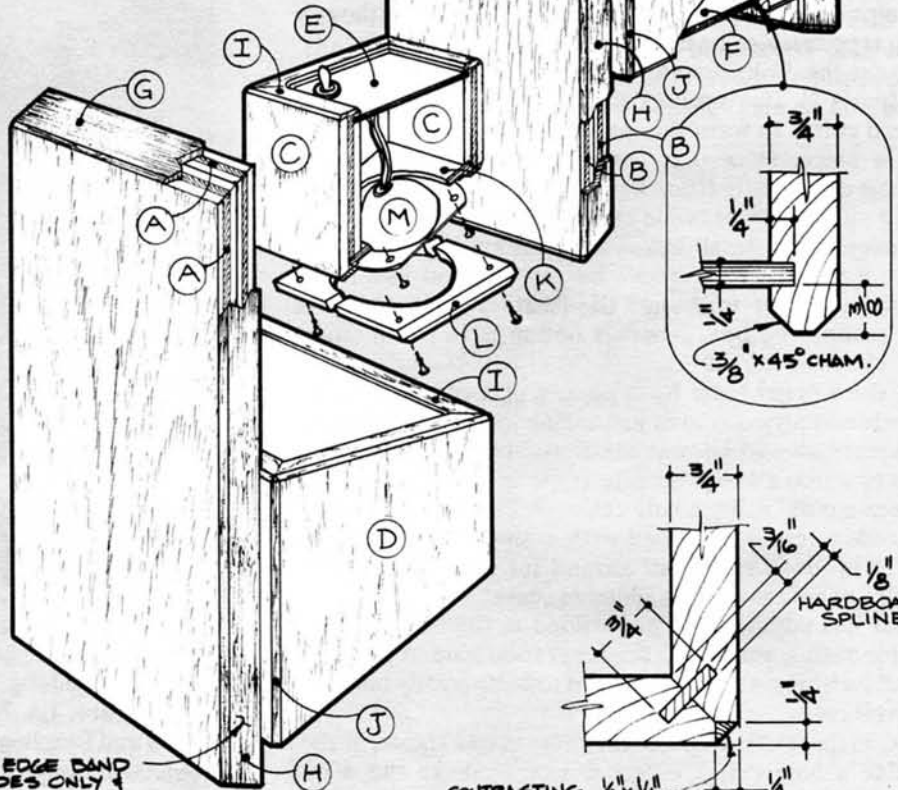


DETAIL: BEZEL (L)



CONTRASTING EDGE BAND
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CHAM. $\frac{3}{8}$ " $\times$ 45°

DETAIL: EDGE BAND



CONTRASTING $\frac{1}{4}$ " $\times$ $\frac{1}{4}$ "
THEN CHAM. $\frac{1}{4}$ " $\times$ 45° (J)

DETAIL: CORNER CONSTR.

Roller Stand

by Jack Fisher

On occasion, every woodworker needs an extra hand in the workshop, especially when working with long stock. This easy-to-make roller support will always be there to give you that extra hand — and it will cost just a fraction of what you'd pay for one commercially made. The roller can be easily adjusted up or down to accomodate any of my nine stationary power tools. And, if necessary, it can be swung out of the way or removed to allow for regular use of the sawhorse.

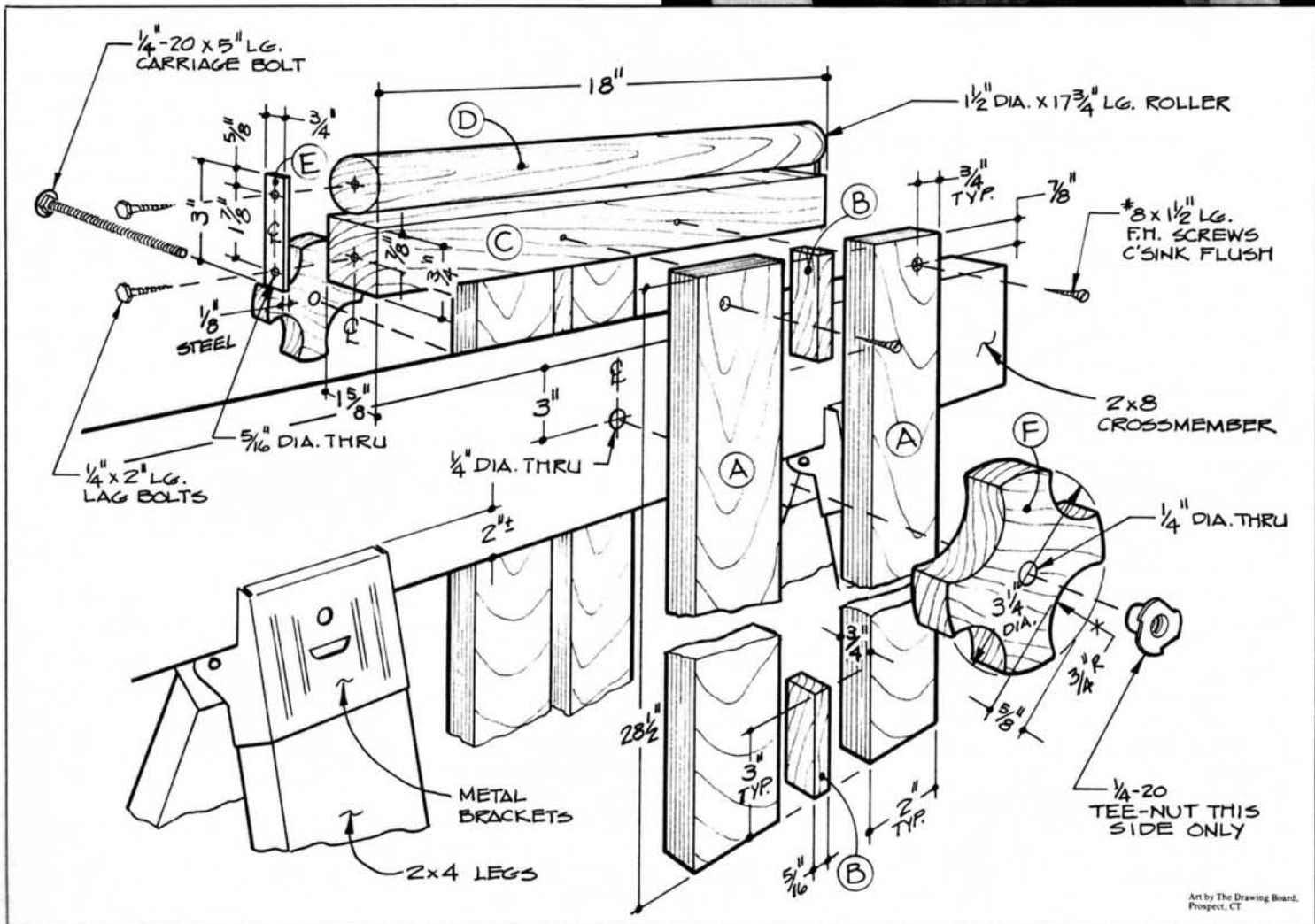
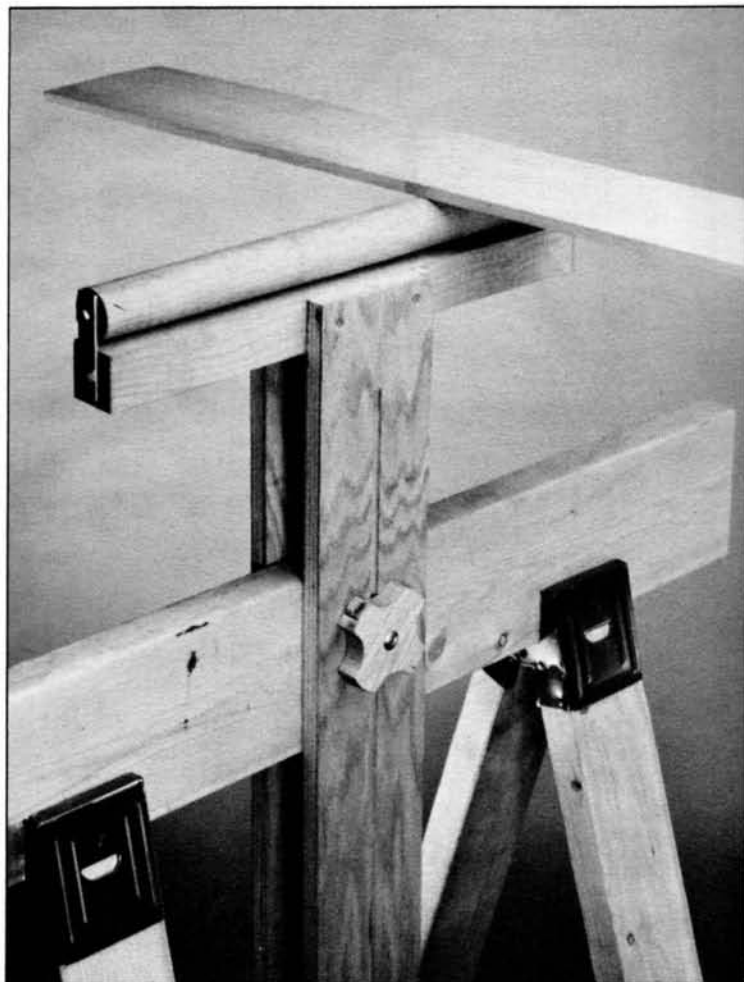
Cut the vertical members (parts A) to length and width from $\frac{3}{4}$ in. plywood. The spacers (parts B) are made from solid stock measuring $\frac{5}{16}$ in. thick by $\frac{3}{4}$ in. wide by 3 in. long. Parts B are then glued between parts A as shown.

The roller (part D) can be lathe-turned, or you can use 1½ in. diameter dowel stock. If not available locally, it can be purchased via mail order from Woodworks, 4013-A Clay Ave., Fort Worth, TX 76117. A three foot length will cost \$4.90 plus \$2.00 for shipping and handling.

The two knobs (parts F) are cut from $\frac{3}{4}$ in. thick stock. Use a band or saber saw to cut to shape. If you have one, a $1\frac{1}{2}$ in. diameter drum sander will do a nice job sanding the curves.

Both the tee-nut and the steel brace (part E) can be purchased at most hardware stores. Note that you'll need to drill a pair of 5/16 in. diameter holes in the steel braces.

Assemble all parts as shown, then lightly sand all surfaces and sharp corners. A couple of coats of polyurethane varnish will provide a good protective finish. W&J





Early American Wall Secretary

Early American furniture continues to enjoy a great deal of popularity in this country. This piece, made from pine, certainly has all the flavor, and the charm, of that style.

It's a piece that can be put to use almost anywhere in the house, but we think it can be particularly handy near a telephone since the front folds down to form a writing surface.

The two sides (parts A) can be made first. If you can't get 9 1/4 in. wide stock you'll have to edge-glue a couple of narrower boards in order to get the needed width. Apply glue to both mating surfaces, then use bar or pipe clamps to clamp together. Allow to dry overnight.

Cut both sides to overall length and width, then lay out and mark the location of the dadoes for the top (part B), upper shelf (part C), middle shelf (part D) and the bottom (part E). The dadoes for parts B and C are 3/8 in. deep by 3/4 in. wide and go completely across the board. The dado for part E is also 3/8 in. deep by 3/4 in. wide, but it

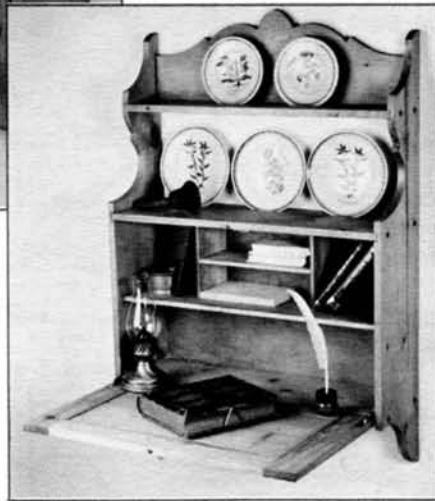
is stopped at a point 1 in. from the front edge. The dado for part D is 3/4 in. deep by 1/4 in. wide and is stopped at a point 1 1/2 in. from the front edge.

The dadoes are best cut using the dado-head cutter in conjunction with the table saw, although a router can also do the job. It's a good idea to cut the dadoes slightly less than the thickness of the mating board. Then, when the mating board is later sanded, the fit should be just right.

Next, use a router equipped with a 1/4 in. piloted rabbet bit to cut the 3/8 in. by 1/4 in. rabbet along the inside back edge. Note that the rabbet stops at the dadoes for parts C and E.

Now, the grid pattern can be transferred to the drawing. A band or saber saw will cut it to shape in short order.

Parts B, C, D and E can now be cut to overall length and width. All are 3/4 in. thick stock except for the 1/2 in. thick part D. A router with a 1/4 in. straight bit will cut the 1/4 in. by 1/4 in. stopped dadoes (for parts H) in the bottom of part C and the top of part D.



The tenons on each end of parts D and H are best cut with the dado-head. Note that the front edge of part E is cut at a 45 degree bevel.

After part F is made, all parts can be given a thorough sanding, working up to 220 grit. Assemble as shown using glue and wood screws, countersunk and plugged, to secure parts B, C, E. Check for squareness.

Apply glue to the back half of the tenon on each end of part D, then apply glue to the front half of its mating dado in part A. When part D is slid in from the back, this gluing technique serves to spread the glue out evenly. Parts H and I can be added in the same manner. Following this, the back (G) is secured in place with finishing nails.

The door panel (part M) will require edge glued stock. The bevel is best cut on the table saw with the blade tilted at an angle of about 9 degrees. It's a good idea to clamp a tall (about 6 in.) auxiliary fence to your rip fence in order to support the panel as it's passed over the blade.

The panel groove in parts J and K can be cut on the table saw with the dado-head. However, the panel groove in parts L is stopped, so a router will have to be used here.

After sanding all parts, the door is assembled as shown. Don't glue the panel in place, it must be free to float.

The project can now be stained to suit. We used two coats of Minwax Golden Oak Wood Finish followed by several coats of their antique oil finish.

If not available locally, the door hinge (called a combination hinge support) is available from The Woodworker's Store, 21801 Industrial Blvd., Rogers, MN 55374. Order part number D4750. The price is \$2.75 each, plus \$1.50 handling and insurance charge.

Wwj

Bill of Materials

Part	Description	Size	No. Req'd.
A	Side Panel	3/4 x 9 1/4 x 41 3/4	2
B	Top	3/4 x 6 x 29 1/4	1
C	Upper Shelf	3/4 x 9 1/4 x 29 1/4	1
D	Middle Shelf	1/2 x 8 x 29 1/4	1
E	Bottom	3/4 x 8 1/2 x 29 1/4	1
F	Front Panel	3/4 x 7 x 28 1/2	1
G	Back	1/4 x 17 1/4 x 29 1/4	1
H	Vertical Divider	1/2 x 9 1/4 x 8 1/2	2
I	Horizontal Divider	1/2 x 5 1/2 x 13	1
J	Top Rail	3/4 x 3 x 25	1
K	Bottom Rail	3/4 x 3 x 25	1
L	Door Stile	3/4 x 3 x 17 1/4	2
M	Door Panel	3/4 x 11 1/4 x 23 3/4	1
N	Door Stop	3/4 x 1 x 2	1

Dressing Screen

This lovely dressing screen, with its angelic-like profile, will make an impressive addition to the decor of any home. Exposed spline grooves are used generously, a joint that is both strong and attractive. The center panels are $\frac{1}{4}$ in. mahogany plywood, a member that is dimensionally stable and lightweight. Solid stock is used for all other parts, including the splines.

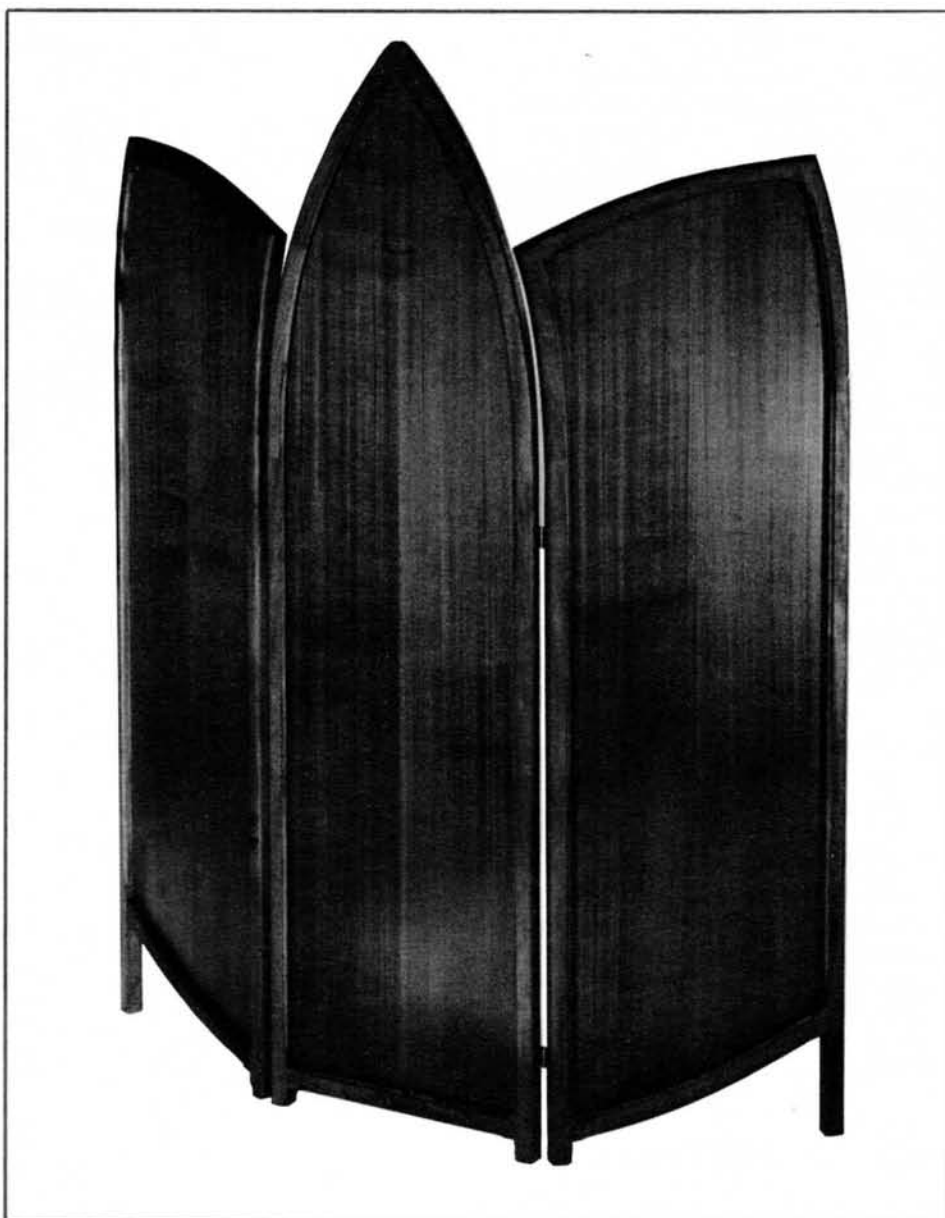
Begin by preparing all the $1\frac{1}{2}$ in. thick stock for the frame parts. Referring to parts A through J in the bill of materials, cut each part to rough size, allowing 1 in. over length and $\frac{3}{8}$ in. over width. Now, true up one edge on the jointer, then use the table saw to rip the other edge to final width.

Each part can now be cut to final length. The ends of parts C, D, H, and J are cut at 90 degrees, while the ends of the remaining parts (A, B, E, F, G, and I) are cut at various angles as shown in the details. Several parts have ends cut at the same angle, so make each of these cuts before changing the miter gauge setting. Be sure to use the jointed edge against the miter gauge. If you have one, use a good cross-cut blade to insure a tight joint. And to avoid confusion, it's also a good idea to label each part as it is cut.

The double spline grooves can now be cut. Note that these grooves are cut on just one end of parts C, D, and H. The remaining parts (A, B, E, F, G, I, and J) have grooves cut on both ends.

To cut the spline grooves, equip the table saw with a $\frac{1}{4}$ in. wide dado-head cutter set to make a $1\frac{1}{4}$ in. deep cut. Adjust the rip fence to cut the groove at a point $\frac{3}{8}$ in. from the edge (see spline groove detail). With the end of the stock held against the table saw, pass the part over the dado-head. Make one groove, then put the opposite face against the rip fence and make the second groove (see photo A).

The oversized splines are made next. A total of 38 are required. Solid stock is used. Properly made, the thickness of the splines should be such



that they fit snugly in the grooves. Ours were made by resawing thick stock on the table saw, but a band saw or hand plane will also do the job.

The grain of the spline must run parallel to the grain of the frame parts to be joined. The spline length should be $\frac{1}{32}$ in. less than the total depth of the spline joint when the parts are mated together, or $2-15/32$ for a $2\frac{1}{2}$ in. depth. Also, they should be at least $\frac{1}{4}$ in. wider than the stock.

Now, glue the splines to the grooves in parts C, D, H, I, and J. To insure good contact, use a C-clamp (with clamp pads to protect the stock) to squeeze the faces of the joint together (see photo B). When dry, remember to clean off any excess glue on the ends of the joint, otherwise it won't fit up properly.

In order to be able to exert adequate clamping force when the various parts are joined, it will be necessary to temporarily attach glue blocks to the frame parts. A total of 36 blocks are required, each measuring $1\frac{1}{4}$ in. thick by 2 in. wide by $2\frac{1}{2}$ in. long. Glue and clamp the blocks to the stock just behind the joint (see photo C). Use a piece of

Bill of Materials
(All Dimensions Actual)

Part	Size	No. Req'd
A	$1\frac{1}{2} \times 2\frac{3}{4} \times 18$	2
B	$1\frac{1}{2} \times 2\frac{1}{2} \times 18$	2
C	$1\frac{1}{2} \times 1\frac{1}{2} \times 43\frac{1}{2}$	2
D	$1\frac{1}{2} \times 1\frac{1}{2} \times 43\frac{1}{2}$	2
E	$1\frac{1}{2} \times 2\frac{3}{4} \times 16$	2
F	$1\frac{1}{2} \times 3\frac{3}{4} \times 17\frac{3}{4}$	2
G	$1\frac{1}{2} \times 3 \times 20-3/16$	2
H	$1\frac{1}{2} \times 1\frac{1}{2} \times 43\frac{1}{2}$	2
I	$1\frac{1}{2} \times 3 \times 18\frac{1}{4}$	2
J	$1\frac{1}{2} \times 1\frac{1}{2} \times 17\frac{1}{2}$	1
K	$\frac{1}{4} \times 18\frac{1}{2} \times 68\frac{1}{4}$	1
L	$\frac{1}{4} \times 23 \times 61\frac{1}{4}$	2

paper sandwiched between (brown paper bag paper works well) the glue block and the stock. The paper will

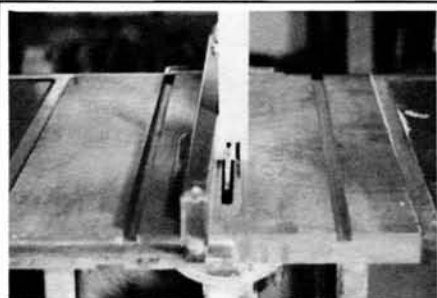


Photo A — Stock is held against rip-fence to cut spline grooves. Table saw is equipped with a 1/4 in. dado-head cutter.

make it easier to remove the block.

Now join parts B to C, D to E, and G to H. Make sure that the end with the correct angle is joined - it's easy to get them confused. Clamp with two deep throat clamps using even pressure on both sides (see photo D). It's also important to leave the correct amount of overhang on each side. Refer to the detail drawing for this dimension.

When dry, glue and clamp splines in the end of parts B. Allow to dry, then use the clamp block technique to join parts A and parts B.

Once all the joints are dry, the glue block can be knocked off with a sharp blow with a hammer and chisel.

Next, a template is made in order to trace and trim the curved frame parts.

Transfer the various grid patterns to tracing paper, then draw in the curves. Now, use rubber cement to fasten the tracing paper to 1/4 in. hardboard or plywood. The profiles of parts A, B, and C should be joined to form a template that goes full length. The template for parts D and E can be used for G and H. Be sure to extend the template 1 1/4 in. in each direction. Also, it's important to scribe a line to indicate the location of the joints.

Now, lay out the template and trace the curves on the frame parts (includ-



Photo B — Clamp applies pressure to face of joint when splines are glued in place. Note clamp pads are used to protect stock.

ing parts I), then use the band saw to cut out, taking care to stay about 1/8 in. on the waste side of the line. For part I, you'll first have to cut tenons out of the splines.

Once all parts are cut, you need a router table equipped with a 1/2 in. by 2 1/2 in. laminate trimmer to trim the frame parts. Attach the template to the stock with double-faced tape, then run the stock through the trimmer with the ball bearing guide making contact with the template (see photo E).

Now, lay out the mortises on parts C, D, and H. Use a drill press equipped with a 1/4 in. drill bit to remove most of the stock, then clean up with a chisel. Dry fit each mortise to its corresponding tenon.

All the frame parts can now be dry clamped together, including parts F. Fix the template in place for part F, then scribe the arc (see photo F). A band saw is then used to cut out 1/8 in. on the waste side of the scribe line. The laminate trimmer on the router table will clean up the excess.

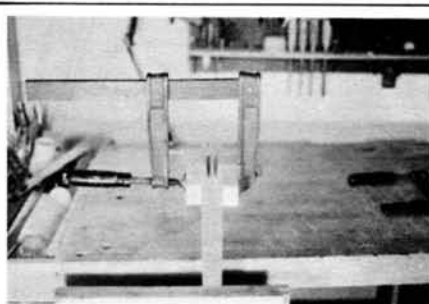


Photo C — Clamp blocks are temporarily glued to panel stock.

Splines are now added to part F. Once dry, part F must be fitted to parts G and E. Scribe a line across the face of parts G and E where the end of the joint lies. Set parts F in place then transfer the splines. Trim the splines to 1/8 in. over length and pare with a chisel to insure a good fit.

Now that all pieces are cut and shaped they can be dry assembled and clamped. On the center frame the splines must be trimmed to fit flush to the inside of the frame.

Next, a router equipped with a bearing guided wing cutter is used to cut a 1/4 in. wide by 3/8 in. deep groove all around the inside of the frames (see cross section).

Once all grooves are cut in the frame, cut two 1/4 in. thick panels (part L) to 23 in. wide by 96 in. long, and one panel (part K) which is set 18-7/16 in. wide by 96 in. long. Next, lay the panel on a flat surface, then place the frame on top of it and mark the inside profile of the frame. Remove the frame, then add 9/16 in. all the way around. Cut out on the band saw, slightly on the

waste side of the stock, then plane to the line with a block plane. You'll need to slightly round over the corners so

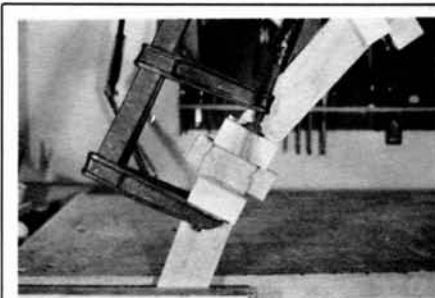


Photo D — Clamp blocks are used to clamp spline joints together. Later the clamp blocks will be removed.

they fit in the rounded corners of the groove.

Now, give the panels and the frame members a complete sanding before staining the project. We wanted ours to have a dark red (almost burgundy) color so we chose to use potassium dichromate as a stain. It's available from the company WoodFinishing Enterprises, Box 10117, Milwaukee, WI 53210. A four oz. package will cost \$2.75. This is a poisonous chemical so use with care. Wear gloves when applying it. To get a feel for the color you'll want to experiment on some scrap pieces first. We applied two coats to get the tone we wanted.

Bring the panels to a final finish before gluing into the frames. We applied four coats of oil, rubbing out thoroughly in between.

Once the panels are finished they can be glued into the frames. We made up some angled clamp blocks in order to clamp parts I (see photo G).

To assemble, glue parts I and F to parts GH. Following this, install the panel and then glue part DE. Follow this procedure for all three assemblies.

Use a router with a 3/8 in. piloted cove bit to shape the edges of the frame stock as shown in the cross

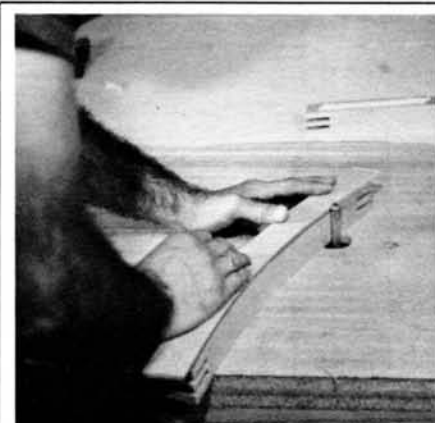


Photo E — With template secured to the stock with double-face tape, router with a laminate trimmer is used to trim excess material.



Photo F — Part I is dry fitted, then template is held in place and lines scribed.

stop at a point $\frac{3}{4}$ in. from each end. A $\frac{3}{8}$ in. rounding over bit is used to cut the rounded edges as shown.

Two pair of half-joint hinges are added to the back. These type of hinges allow the side panels to be removed from the center section - a feature that comes in handy if the screen must be moved or stored. The half-joint hinges can be ordered from the company Ball and Ball, 463 West Lincoln Highway, Extol, PA 19341. Order part number H229-058. You'll need two pair - one right-hand and one left-hand.

A final rub-down with penetrating oil will complete the project. W&J

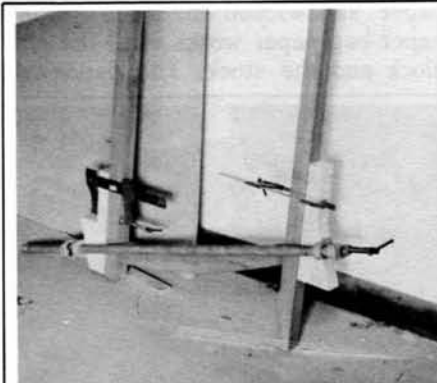
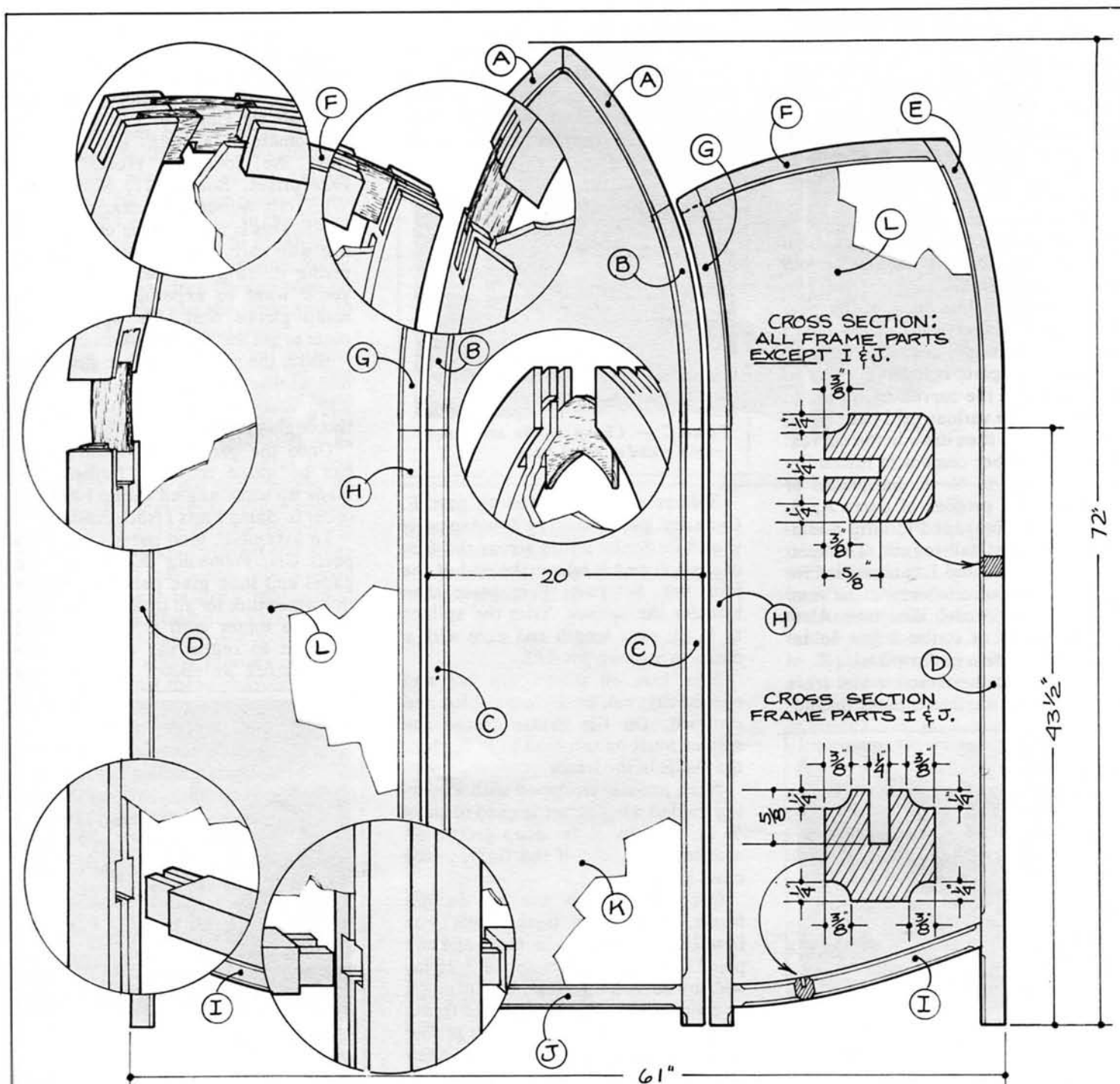
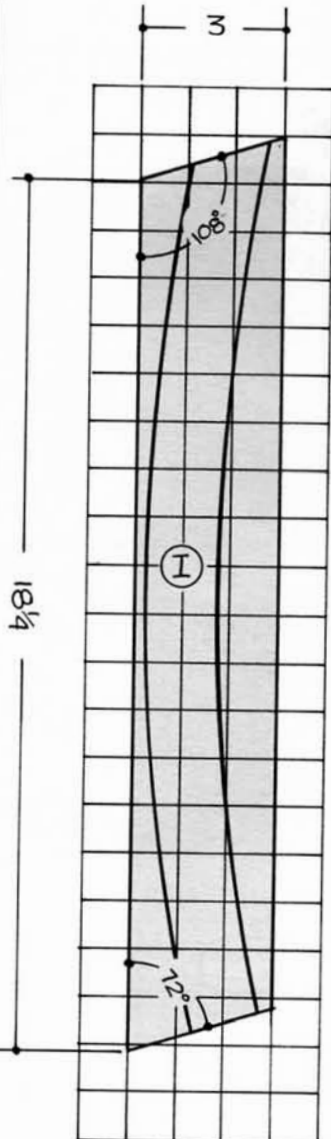
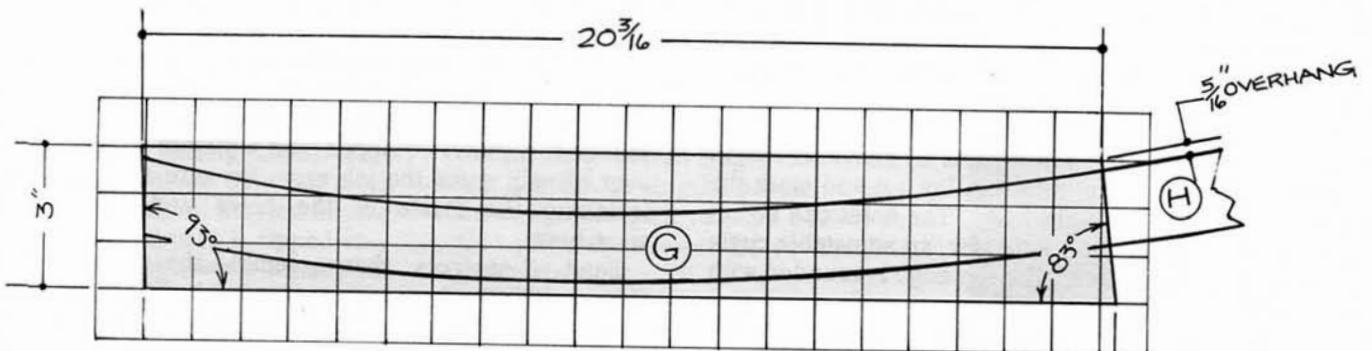
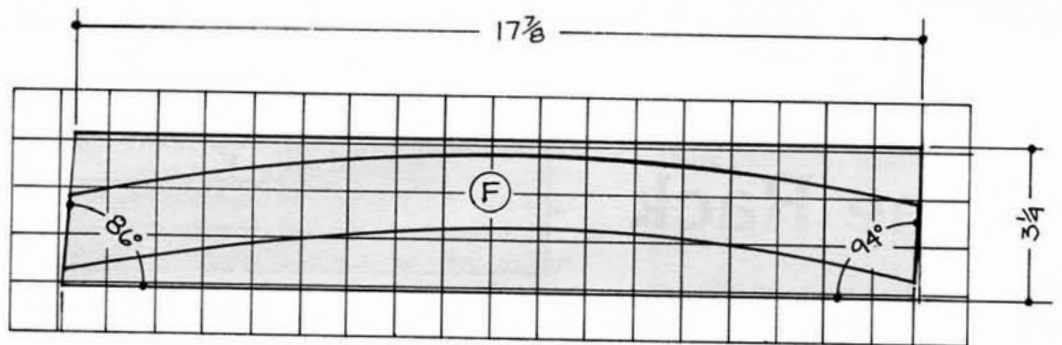
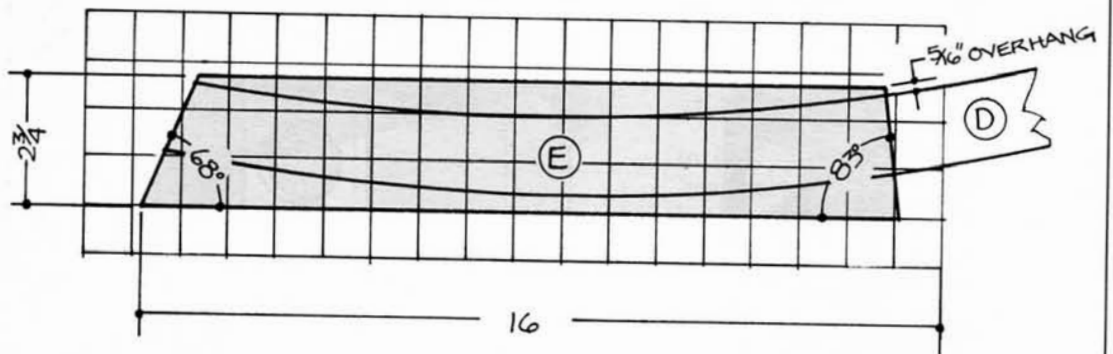
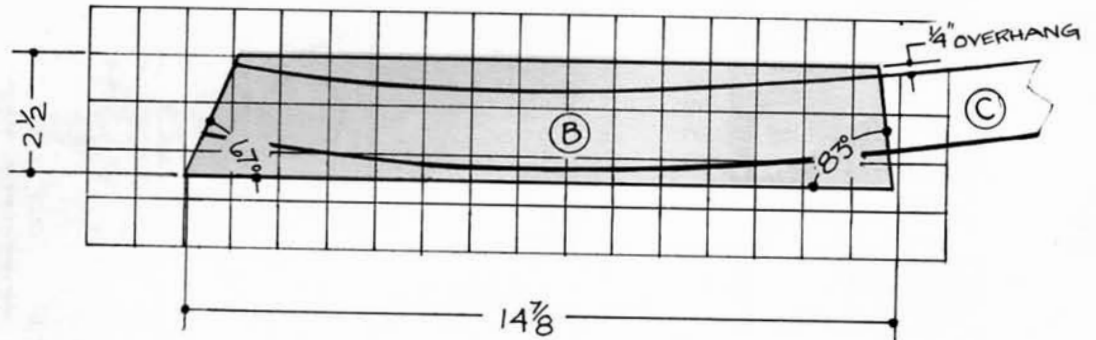
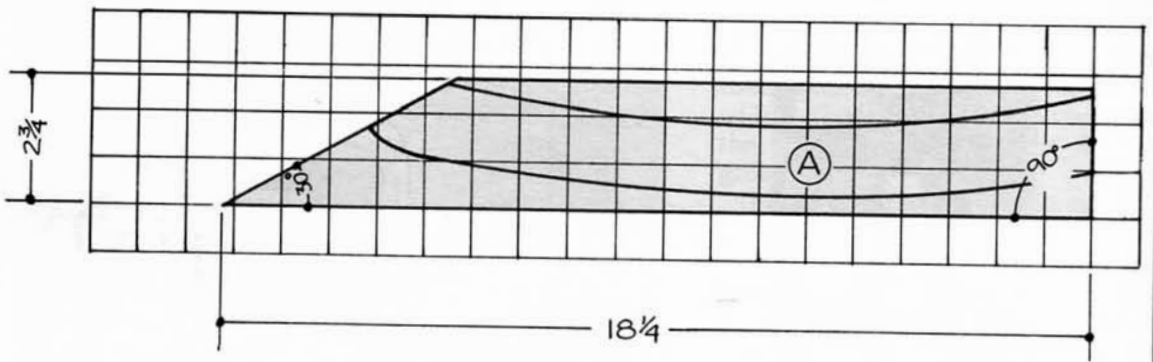
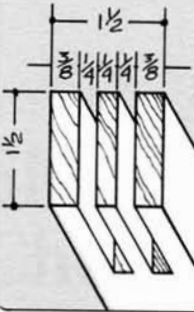


Photo G — Angled clamp blocks permit clamp pressure at right angles to joint.

sectional view. Set the bit so that it cuts only $\frac{1}{4}$ in. deep. Note the coves

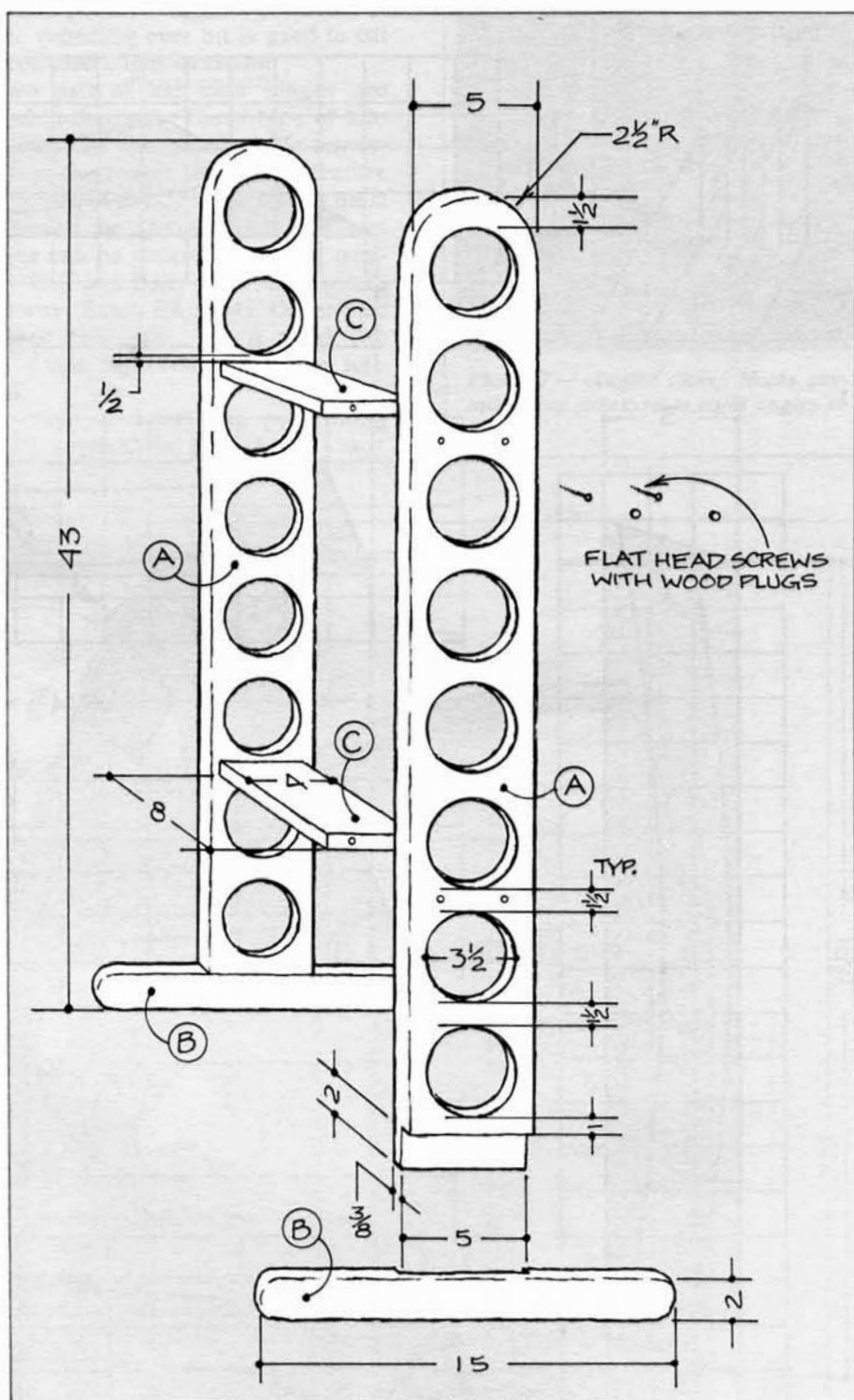


DETAIL: SPLINE GROOVES





Wine Rack



Over the years we've seen a lot of interesting wine rack designs, but we think that this one is especially unique. With a tall, slender profile, it fits nicely in any location where space is at a premium.

We used $\frac{3}{4}$ in. thick oak for all parts, an appropriate wood for a piece like this. Cherry, we think, would be another good choice.

Begin by cutting the two sides (parts A) to overall length and width. Referring to the drawing, lay out and mark the centerline location of the eight holes. The holes can be cut with either a $3\frac{1}{2}$ in. diameter hole saw, an adjustable circle cutter, or with the saber saw. The top edge is rounded with a band or saber saw.

The $\frac{3}{8}$ in. deep by 2 in. wide rabbet on each end of the sides is best cut using the dado-head cutter on the table or radial arm saw, although repeated passes with a regular

saw blade will also do the job.

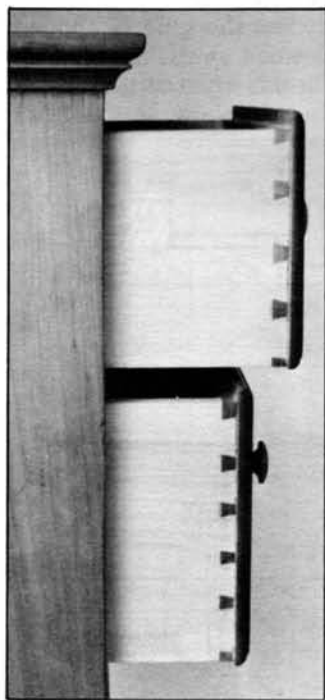
Cut the two feet (parts B) 2 in. wide by 15 in. long, then lay out the location of the half-lap. Again, use the dado-head cutter to make the $\frac{3}{8}$ in. deep groove.

Use glue and clamps to join the feet to the sides, then cut the stretchers (parts C) to length and width.

To look best, this piece needs to have its edges well rounded. A router equipped with a piloted $\frac{3}{8}$ in. rounding-over bit will make the job easy. Be sure to do all edges, including the inside of the holes and those on the stretchers.

Sand all surfaces, then assemble the stretcher to the sides with woodscrews, countersunk and plugged, as shown. Sand the plugs flush with the surface, then final finish with two coats of Watco penetrating oil. Allow to dry, then rub down with a soft cloth.

Shaker Chest of Drawers



The clean lines that typify Shaker style are very much evident in this handsome piece. Solid cherry, a wood commonly chosen by Shaker craftsmen, was used for all parts.

The two sides (parts A) and the top (part B) can be made first. Since these parts are rather wide, it will be necessary to edge-glue two or more narrow boards in order to get enough width. It's best to cut the boards so that the glued up stock will be slightly wider and longer than necessary.

Perhaps most important to the success of an edge-joint is a clean, smooth surface on both mating parts. This permits close contact between both surfaces and results in maximum glue strength. When a board is ripped on a table or radial-arm saw, it usually results in a fairly rough edge, so it's best to smooth it out using a sharp hand plane or a jointer. If you use a hand plane, take several light cuts, don't try



to do it in one pass. And as always, plane with the direction of the grain. Also, keep in mind that it's important for the edge to be at a right angle to the face of the board, so keep a square handy to check for this.

When edge-joining boards of this length, it's a good idea to use three or four dowel pins. Although the pins don't add strength to this joint, they make it easier to keep the edges aligned when the boards are clamped.

Apply a thin coat of glue to both mating surfaces, then clamp the stock together with several bar or pipe clamps. There's no need to add glue to the dowel pins. Avoid overtightening the clamps which can cause too much glue to squeeze out, resulting in a weakened joint.

Once dry, remove the clamps and cut part B to overall length and width. Cut parts A to length, but don't trim them to final width yet. It's best to do that after the drawer frame dovetail grooves are cut.

The top, part B, can now be temporarily put aside while the two sides, parts A, are worked.

The dovetail grooves for the six

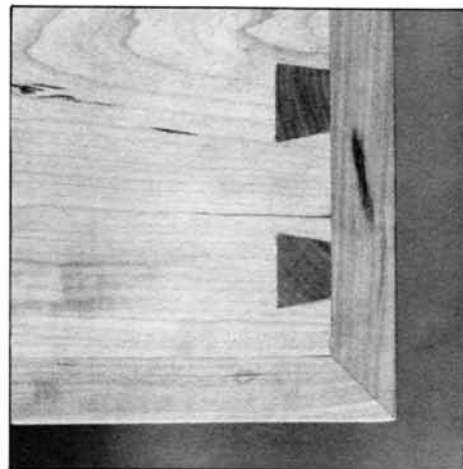
drawer frames are made next. Carefully lay out the centerline location of each groove, extending the line across the entire width of part A. Next, at a point $\frac{3}{8}$ in. on each side of the centerlines, scribe another line across the width. This pair of lines establishes the $\frac{3}{4}$ in. thickness of the dovetail groove.

Equip the router with a $\frac{1}{2}$ in. dovetail bit (we used a Sears bit, p/n 9-25531) and adjust it for a $\frac{3}{8}$ in. deep cut. Cut a guidestrip of suitable length from *straight* stock and clamp it to the side. The distance between the guidestrip and the bit (dimension "A" in figure 1-A) should be such that the cut establishes one leg of the dovetail. The guidestrip must be parallel to the guidelines. Make the cut with the router held firmly against the guidestrip.

Now, transfer the guidestrip to the other side of the slot and again clamp it in place. The distance between the guidestrip and the bit (Dimension "A" in figure 1-B) should be such that it establishes the $\frac{3}{4}$ in. dovetail width. With the guidestrip parallel to the guidelines, make another cut, again holding the router firmly against this guidestrip. Repeat this process for each of the drawer frames.

The two sides can now be trimmed to final width. Then, using the dado head cutter, add a $\frac{1}{2}$ in. by $\frac{3}{4}$ in. rabbet to the back edge as shown. This rabbet can also be cut by making repeated passes with a regular saw blade.

The dovetails that join parts A to part B can now be cut. Readers who don't have a lot of experience cutting dovetails may want to review *The Beginning Woodworker* columns in our July/August 1983 and September/October 1983 issues. You'll find a thorough discussion of the subject in those columns. (continued on next page)



View from above shows sides (A) and top (B) joined with dovetails. Molding (P) is mitered at corners.



The six drawer frames are made next. The top frame consists of parts K, L, and M, the bottom frame consists of parts K, L, M, and N, and the remaining four frames consist of parts K and L. Note that a $\frac{1}{4}$ in. wide by $1\frac{1}{4}$ in. deep groove is cut along the inside edge of each part K. This groove serves as a mortise for the tenon on each end of parts L.

Parts L for the top frame and the bottom frame require a $\frac{1}{4}$ in. wide by $1\frac{1}{4}$ in. deep groove along the inside edge to accept the tenon for parts M. Parts L for the remaining four frames do not require any grooves.

Parts L and M have $\frac{1}{4}$ in. thick by $1\frac{1}{4}$ in. long tenons on each end. These are cut to fit in the mortises in parts K and L. Parts M also have a $\frac{1}{4}$ in. by $\frac{3}{8}$ in. groove along each edge.

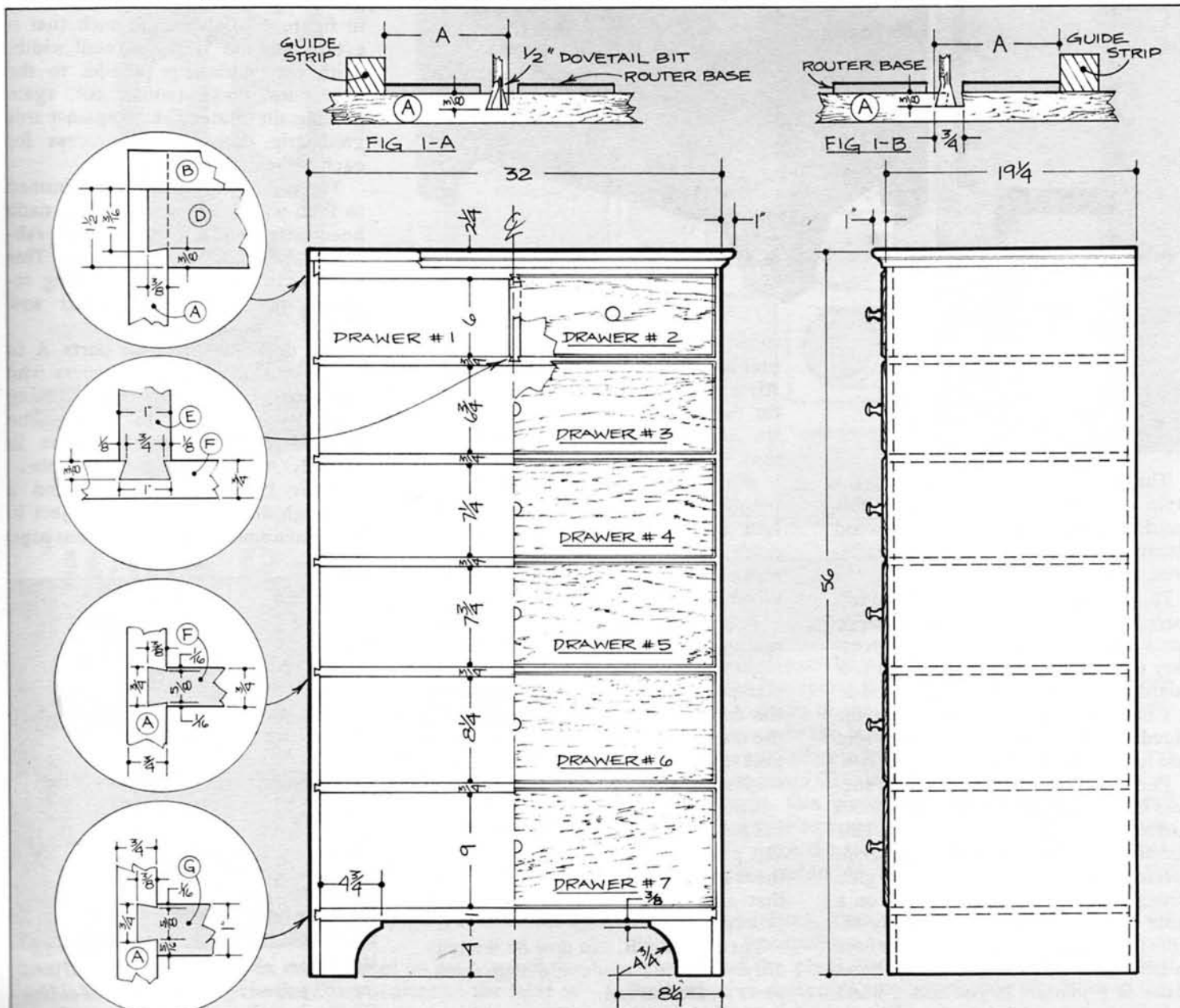
The dust panels, parts N, are made from $\frac{1}{2}$ in. thick solid stock. Each edge is tapered to $\frac{3}{16}$ in. (see cross-sectional view of drawer bottom for typical taper) to fit into grooves in parts L and M.

Once parts K, L, M, and N have been cut they can be assembled as shown. Use glue and clamp each frame securely. It's most important that the frames be square so check carefully and make adjustments as necessary. The dust panel (N) should not be glued in place. It should be free to "float" in

the frame.

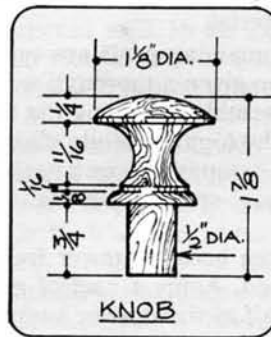
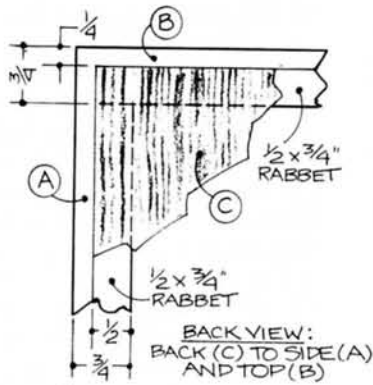
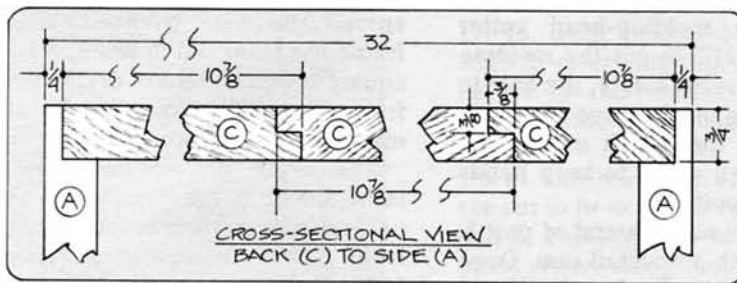
Part G and the five parts F can now be cut to size and glued in place. Use care here to make sure the top and bottom edges of parts F are flush with the top and bottom edges of the drawer frames. Only the top edge of part G need be flush.

The dovetails on each end of the drawer frames can best be cut using a router table. Using the same bit that cut the dovetail grooves, run the drawer frames on edge through the cutter. In order to better support the frames, it's best to clamp a temporary tall fence to the router table fence. Be sure to measure carefully when setting up, and make several practice cuts to check for accuracy. Properly cut, the dovetails should be snug yet slide into the grooves with a minimum of effort. Remember, when the glue is applied later on, the wood swells slightly, so try to allow for this when cutting. Since the dovetails only show at the front

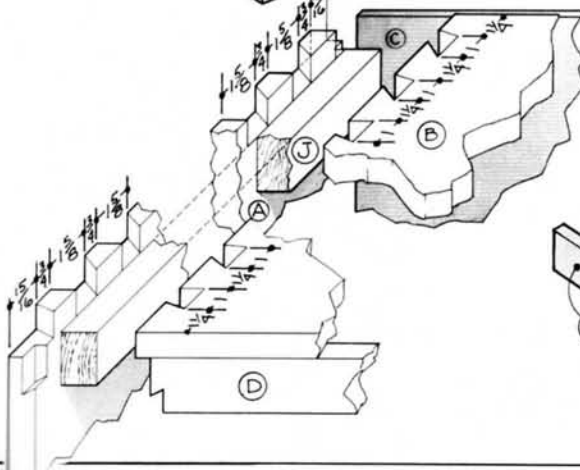
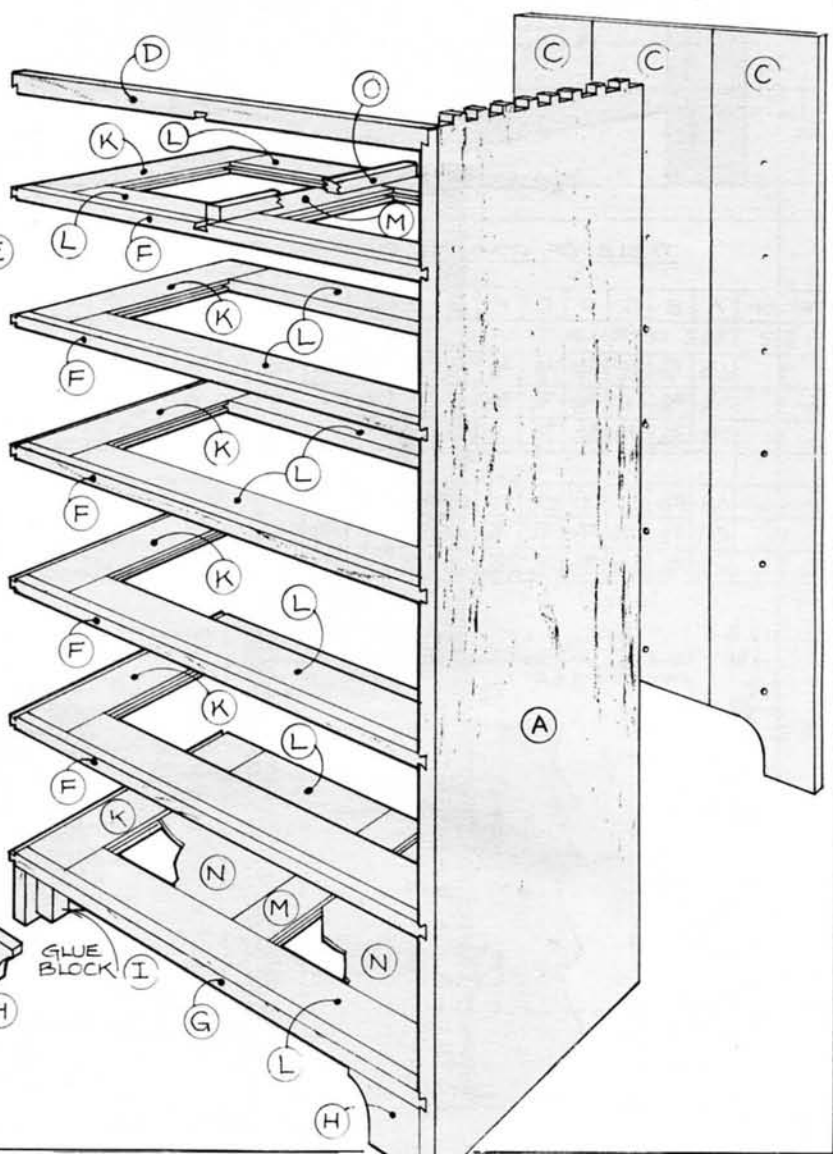
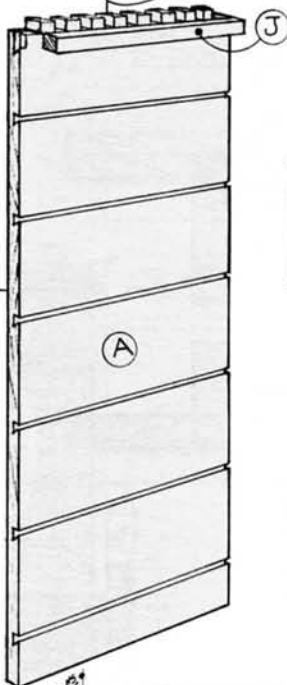
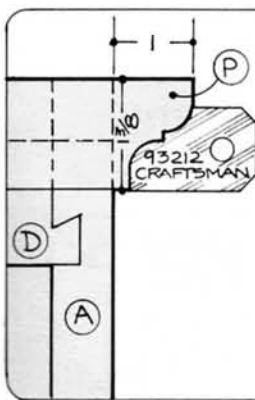
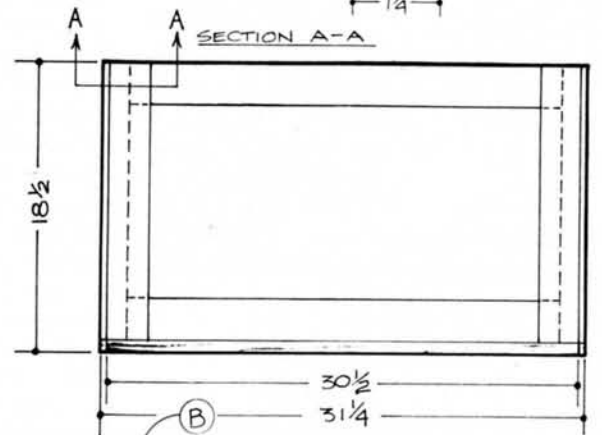
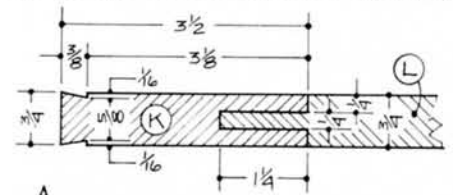


Part	Description	Size	No. Req'd
A	Side	$\frac{3}{4}$ x 19 $\frac{1}{4}$ x 56	2
B	Top	$\frac{3}{4}$ x 19 $\frac{1}{4}$ x 32	1
C	Back	$\frac{3}{4}$ x 10 $\frac{3}{4}$ x 55 $\frac{3}{4}$	3
D	Stretcher	$\frac{3}{4}$ x 1 $\frac{1}{2}$ x 31 $\frac{1}{4}$	1
E	Divider	$\frac{3}{4}$ x 1 x 6 $\frac{3}{4}$	1
F	Edging	$\frac{3}{4}$ x $\frac{3}{4}$ x 31 $\frac{1}{4}$	5
G	Edging	$\frac{3}{4}$ x 1 x 31 $\frac{1}{4}$	1
H	Foot	$\frac{3}{4}$ x 4 $\frac{3}{4}$ x 4	2
I	Glue Block	1 $\frac{1}{4}$ x 1 $\frac{1}{4}$ x 3 $\frac{3}{4}$	4
J	Cleat	1 x 1 $\frac{1}{2}$ x 17 $\frac{1}{4}$	2
K	Support End	$\frac{3}{4}$ x 3 $\frac{1}{2}$ x 17 $\frac{1}{4}$	12
L	Support Front & Back	$\frac{3}{4}$ x 3 $\frac{1}{2}$ x 26 $\frac{3}{4}$	12
M	Support Divider	$\frac{3}{4}$ x 3 $\frac{1}{2}$ x 13 $\frac{1}{4}$	2
N	Dust Panel	$\frac{1}{2}$ x 11 x 11 $\frac{1}{4}$	2
O	Molding	(See Detail) As Req'd	
P	Drawers	(See Details)	7

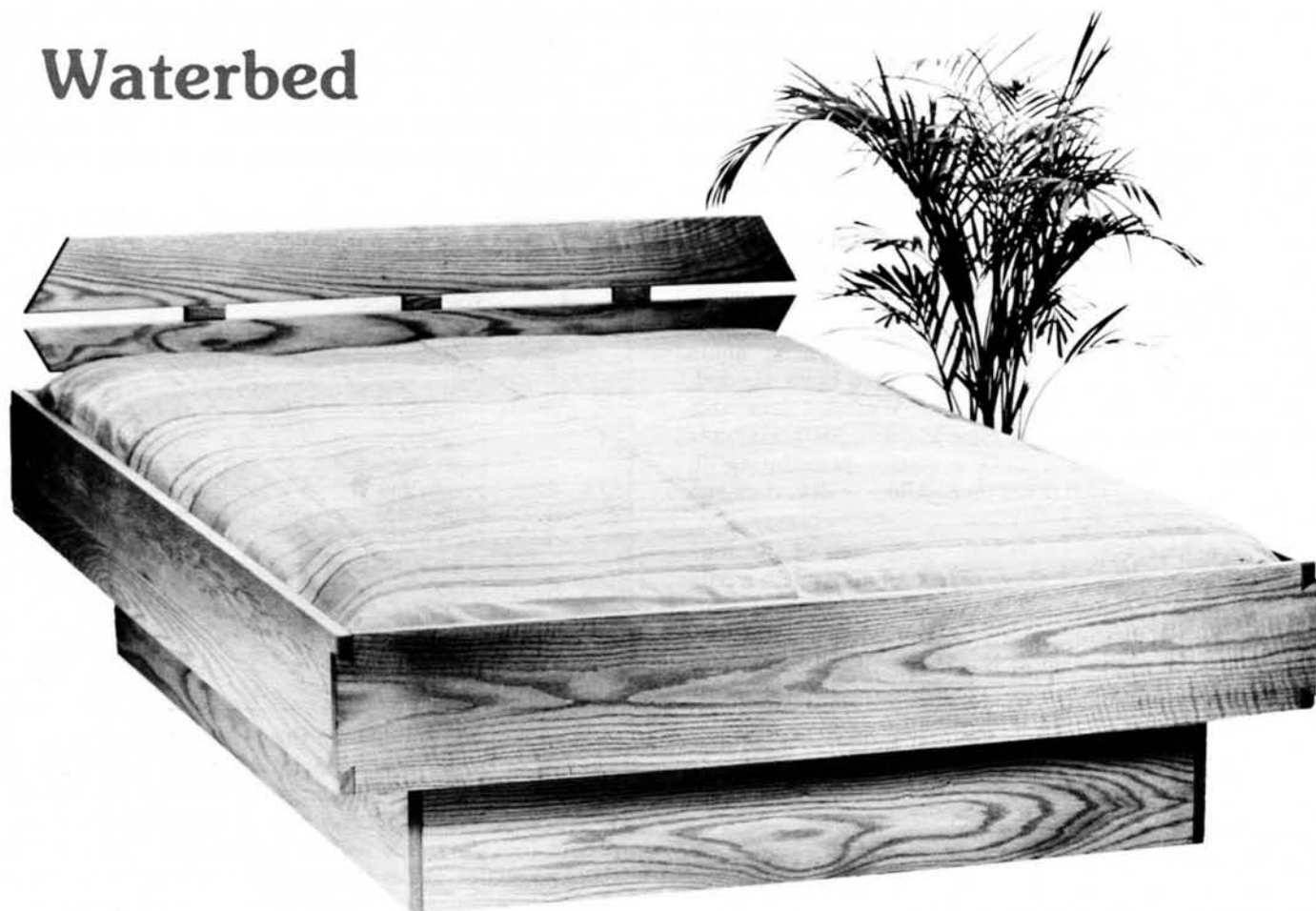
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DETAIL: DRAWER SUPPORTS
(PARTS M AND O ARE ADDED TO THE TOP DRAWER SUPPORT, PARTS M AND N ARE ADDED TO THE LOWER DRAWER SUPPORT)



Waterbed



We think many readers will be surprised to learn how easy it is to build this handsome queen size waterbed. The joinery is relatively basic and shouldn't present any special problems to woodworkers of intermediate skill.

The frame dovetail joints and the pedestal joints are not glued, but rather they are connected by corner brackets — a feature that permits the bed to be easily disassembled and moved if necessary. The frame dovetails and pins are designed to protrude $\frac{1}{8}$ in., a nice detail that effectively lends itself to disassembly. Red oak was used for all parts except the platform.

From 1 in. thick stock, cut the pedestal sides (parts A), pedestal ends (parts B), frame ends (parts G), and frame sides (parts H) to overall length and width. Referring to the frame dovetail detail, lay out the location of the tails on each end of parts G, keeping in mind that the tails are $\frac{1}{8}$ in. longer than the frame thickness. Scribe the lines carefully and use a sharp, hard pencil for added accuracy.

Once scribed, use a dovetail or back saw to cut out the waste stock. Make the cut slightly on the waste side of the line, then use a sharp chisel to pare the stock exactly to the line.

Now, using the tails as templates, scribe the dovetail pin on each end of parts H. As you scribe them, label each mating end to avoid confusion later on. Use a dovetail or back saw to establish the $1\frac{1}{4}$ in. depth of cut, then chop out the remaining material with a sharp chisel. Work from one side and cut only one-half way through, then flip the piece over and cut through the other side. Some paring may be necessary to achieve a good fit.

A $\frac{1}{8}$ in. chamfer is now added to all edges of the pedestal (parts A and B) and frame (parts G and H). A router equip-

ped with a piloted chamfer bit will come in handy here, although the chamfer can also be done by hand with a file and sandpaper. Even if you use a router, you'll still find some hand chamfering will have to be done near the dovetails and pins.

The center insert (part C) and the two cross inserts (parts D) can now be cut to length and width from $\frac{3}{4}$ in. thick particleboard. Part C measures 9 in. wide by 5 ft. 10 in. long, while parts D measure 9 in. wide by 4 ft. long. Note that part C has a pair of slots, each located $22\frac{3}{4}$ in. from the ends, and measuring $\frac{3}{4}$ in. wide by $4\frac{1}{2}$ in. long. Parts D also have a $\frac{3}{4}$ in. wide by $4\frac{1}{2}$ in. long slot cut in the center along the length.

Carefully scribe the location of the slots, then cut out with a back saw and sharp chisel. Once cut, check the parts for a good fit.

The deck (parts E and F) is made from $\frac{3}{4}$ in. thick particleboard. A standard 4 ft. by 8 ft. sheet, ripped down the middle, will yield parts E. On the headboard end, nip the two outside corners at 45 degrees. The cut need only be big enough to allow heater wires to pass through later on. Part F can then be ripped to width.

Next, attach the side and end battens (parts I and J) to the frame parts. Locate the battens $\frac{3}{4}$ in. from the bottom of the frame members (see detail), and about 3 in. from each end. Use glue and wood screws to join them in place.

The two headboards (parts L and M) are made next. Cut each piece to final width, but allow a little extra on the length (about 1 in.) Set the table saw miter gauge to 30 degrees, then cut the two pieces to 62 in. overall length.

Next, the three spacers (part N) are made from 1 in. thick

(continued on next page)

stock. Cut each one to 1 in. wide by 3 in. long. Like the pedestal and frame parts, a $\frac{1}{8}$ in. chamfer is applied to all edges of the headboards and spacers. Following this, the headboard cleats (parts K) are cut to 3 in. wide by 20 in. long. *Editor's Note: In the photo below, note that the headboard cleats (K), are narrower than 3 in. After building the bed, we decided to beef them up, so the width was changed to 3 in. on the drawing.*

Give the headboards (parts L and M) and the headboard cleats (parts K) a thorough sanding, finishing with 220 grit. Now, glue and clamp the spacers (N) in place between the headboards as shown.

Now, sand all the frame and pedestal parts, again finishing with 220 grit. Once all parts have been sanded, the final finish can be applied. We used Waterlox (available from Woodworker's Supply of New Mexico, 5604 Alameda N.E., Albuquerque, NM 87113), a quality penetrating oil that provides good water resistance. Allow to dry, then rub down thoroughly.

The bed can now be assembled. Join each of the four corners of the pedestal members (parts A and B) with a pair of 2 in. by 2 in. corner brackets. Space the brackets 1 in. from the top and bottom edges. Assemble the two cross inserts (parts D) to the center insert (part C) then set the decking members (parts E and F) in place.

Assemble the frame (parts G and H) next. Begin by attaching the headboard (parts K, L, M, and N) to the frame end (part G) with $1\frac{1}{2}$ in. long by no. 10 flat head wood screws.

Next, place the frame end (with the headboard) on top of the particleboard in its proper position, then add the frame sides and the remaining frame end. Just dry assemble the frame member dovetails, don't glue them in place. To join the frame members, use 2 in. by 2 in. corner brackets located 1 in. from the top and bottom.

When the mattress is installed, and water is added, the mattress tends to push out on the frame members (parts G and H), causing them to bow. To prevent this, use a 2 in. by 2 in. corner bracket to join the center of each frame member to the decking.

Before adding the mattress and its associated parts, be sure to square the frame members to the pedestal unit. This is a simple matter of checking for a 5 in. overhang all around.

A complete waterbed mattress system consists of five basic parts; a liner, which serves to contain the water in the frame in the unlikely event of a leak, a liner fastener

(Tuck-A-Liner) which holds the liner in place on the frame, a heater pad to keep the water warm (otherwise hypothermia could result), a control box with a heat sensor (to provide adjustable heat) and the mattress. Just about any waterbed store will carry these parts, in fact, they are usually sold together as a package deal. Total price will be around \$165.00.

Bill of Materials
(All Dimensions Actual)

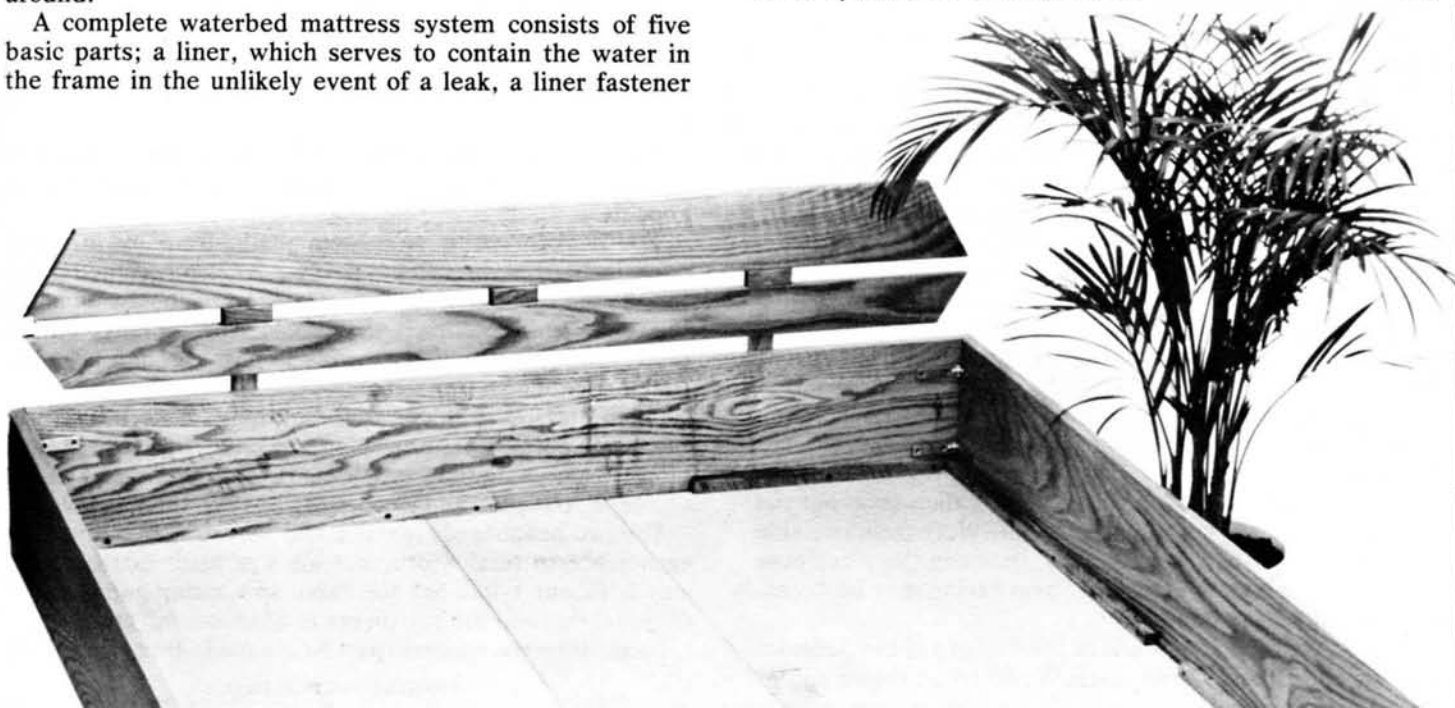
Part	Description	Size	No. Req'd
A	Pedestal Side	1 x 9 x 74	2
B	Pedestal End	1 x 9 x 48 $\frac{1}{2}$	2
C	Center Insert	1 x 9 x 70	1
D	Cross Insert	1 x 9 x 48	2
E	Outer Deck	$\frac{3}{4}$ x 23 $\frac{3}{4}$ x 84	2
F	Inner Deck	$\frac{3}{4}$ x 12 $\frac{1}{2}$ x 84	1
G	Frame End	1 x 9 x 62 $\frac{1}{4}$	2
H	Frame Side	1 x 9 x 86 $\frac{1}{4}$	2
I	Long Batten	$\frac{3}{4}$ x $\frac{3}{4}$ x 37	4
J	Short Batten	$\frac{3}{4}$ x $\frac{3}{4}$ x 20	4
K	Headboard Cleat	1 x 3 x 20	2
L	Lower Headboard	1 x 4 x 62	1
M	Upper Headboard	1 x 6 x 62	1
N	Spacers	1 x 1 x 3	3

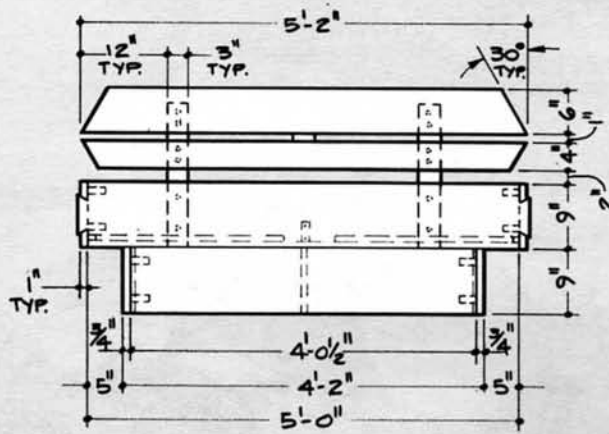
Screw the liner fastener to the inside of the frame, 1 in. from the top edge. Next, attach the control box to one side of the frame at the head of the bed. Connected to the box is a heat sensor which will run through the mitered corners of the deck into the frame and lay about 12 in. from the frame side. The heater pad is then placed in the center of the bed at least 12 in. from the heat sensor. The cord for the heater pad runs out the same mitered corner and plugs into the heater box. The liner is then positioned and secured by the liner support.

Now place the mattress in the frame and center it. Add a bottle of algicide (available at most waterbed stores), then connect a water hose and begin to fill. Fill the bed about one-quarter full and check for squareness. Add water until you are unable to touch bottom at the center of the bed when you are in a sitting position.

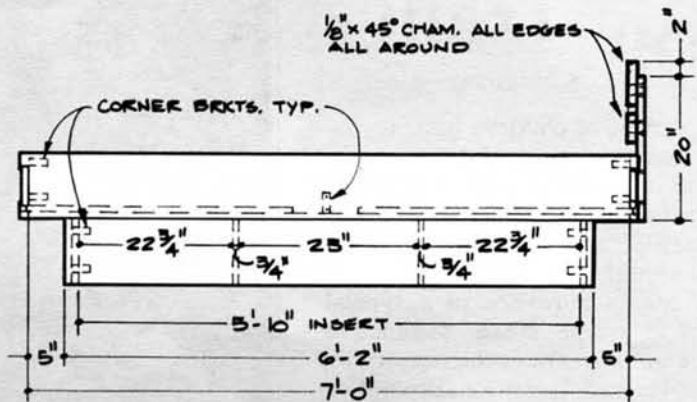
Add mattress pads, then plug in the heater. The bed will be ready to use in about 24 hours.

Wwj

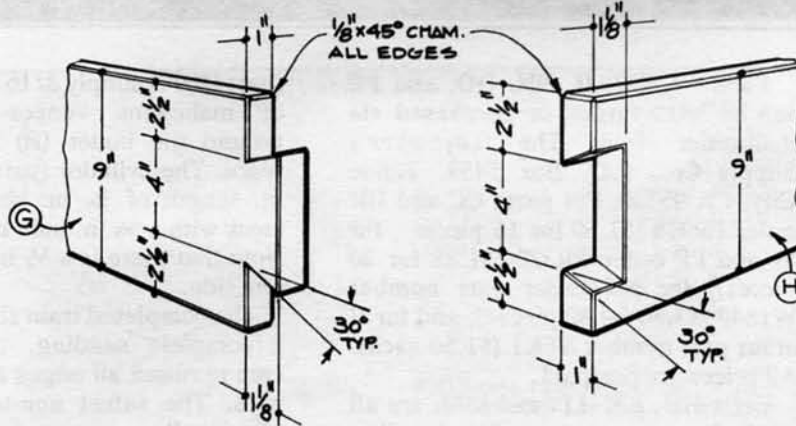




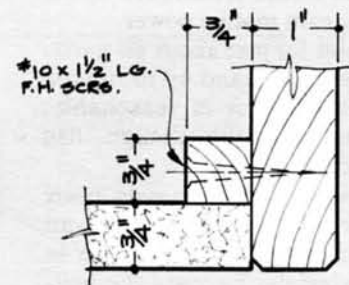
FRONT ELEVATION



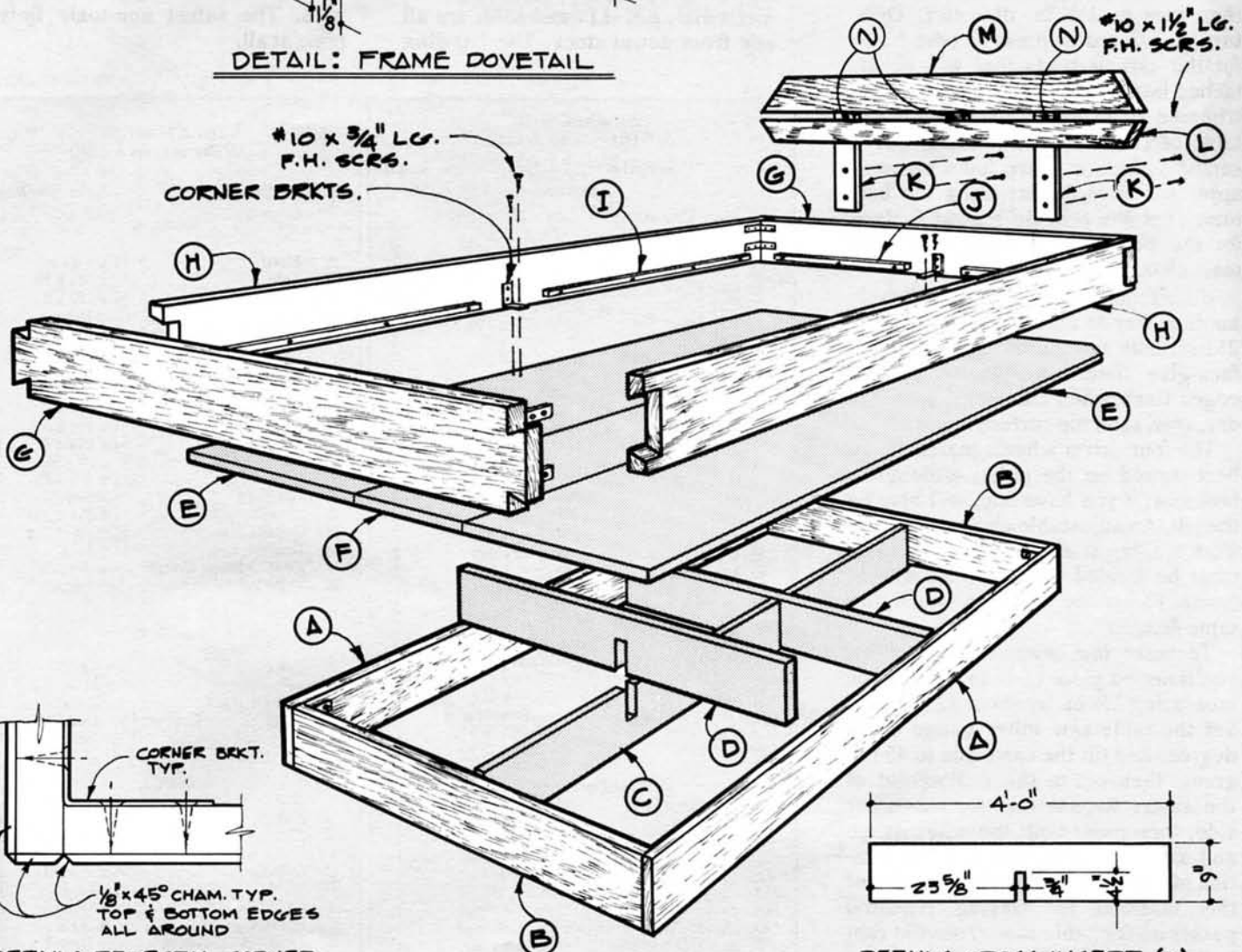
RIGHT SIDE ELEVATION



DETAIL: FRAME DOVETAIL



DETAIL: BATTEN



DETAIL: PEDESTAL CORNER

DETAIL: CROSS INSERT (D)

Toy Train

by C.J. Maginley

Generations of children have enjoyed wooden toy trains, and the appeal seems as strong today as ever. Rather remarkable, some might say, when you consider a wooden train doesn't contain a single micro-chip.

This one is a replica of a typical "American" type steam locomotive built around the turn of the century by the Baldwin and American Locomotive Works. It was the first locomotive in the world to set speed records and put the American steam locomotive in the forefront of steam motive power.

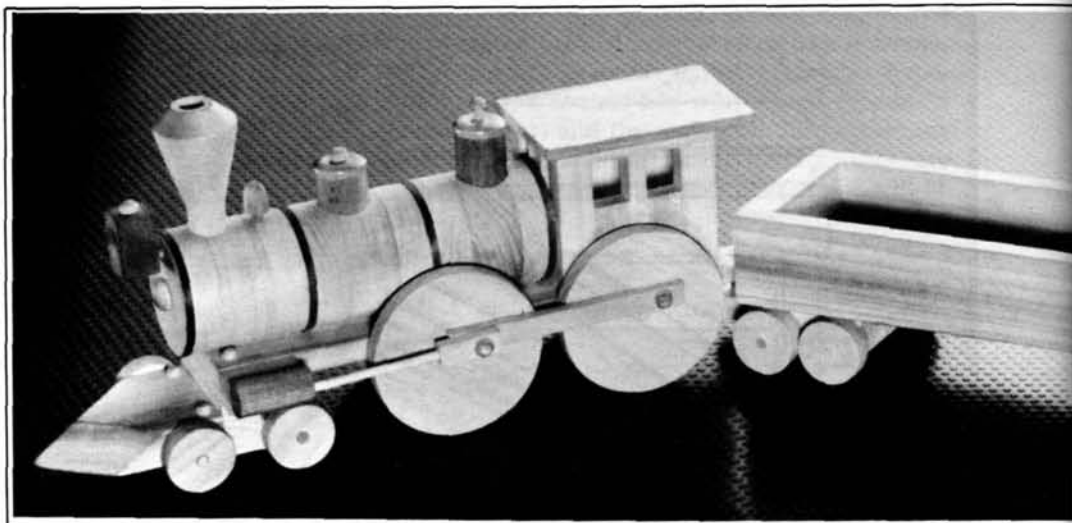
I used poplar for just about all parts. It's hard enough to stand up to rugged handling yet the cost is reasonable. For maximum durability though, use maple or birch.

The locomotive main chassis (part A) is made from 1/2 in. thick stock and cut to the length and width shown in the bill of materials. To make the boiler (part B), face-glue 10 pieces of 13/16 in. thick by 3 in. square stock, then turn to 2 1/2 in. diameter. Once turned, use a drill press to bore holes for the various parts that will be attached later on. The boiler can now be trimmed to a 7 1/2 in. length on the table or radial-arm saw. Next, use a sanding block or sharp hand plane to apply a 1 in. wide flat along the bottom. This will provide a good surface for the boiler to be attached to the main chassis.

If you don't have a lathe there's another way to make the boiler: use a 2 1/2 in. hole saw to cut 10 disks, then face-glue them together. Keep the edges flush when clamping. Allow to dry, then sand the surface smooth.

The four driver wheels (parts Q) are best turned on the lathe, although a hole saw, if you have one, will also do the job. An adjustable circle cutter will work too, but it may leave a ridge that must be sanded off. The pilot wheels (parts Y) can be made in much the same fashion.

To make the cowcatcher (part V), you'll need a piece of 3/4 in. thick stock measuring 2 3/4 in. by about 12 in. long. Set the table saw miter gauge at 45 degrees and tilt the sawblade to 45 degrees, then cut to the centerpoint of the stock. Repeat this for the other side, then move both the miter gauge and sawblade to zero. Mark the location of the 1 1/2 in. rabbet, then cut out this material by making repeated passes on the table saw. Once the rabbet's been cut, the cowcatcher can be cut to its 2 1/4 in. length.



Parts W, CC, II, NN, OO, and PP can be lathe-turned or purchased via mail-order from The Toymaker's Supply Co., P.O. Box 5459, Tahoe City, CA 95730. For parts CC and DD order PR216 (\$1.50 for 16 pieces), for W and PP order PR320 (\$1.25 for 20 pieces), for NN order part number W1540 (\$3.50 for 40 pieces), and for II order part number STK1 (\$1.50 each). All prices are postpaid.

Parts HH, KK, LL, and MM are all made from dowel stock. The banding

(part QQ) is simply 3/16 in. wide strips of mahogany veneer that's bent around the boiler (B) and glued in place. The cylinder (part EE) is a 1 1/2 in. length of 3/4 in. diameter dowel stock with a 3/8 in. hole bored through. Note that there is a 1/2 in. wide flat on one side.

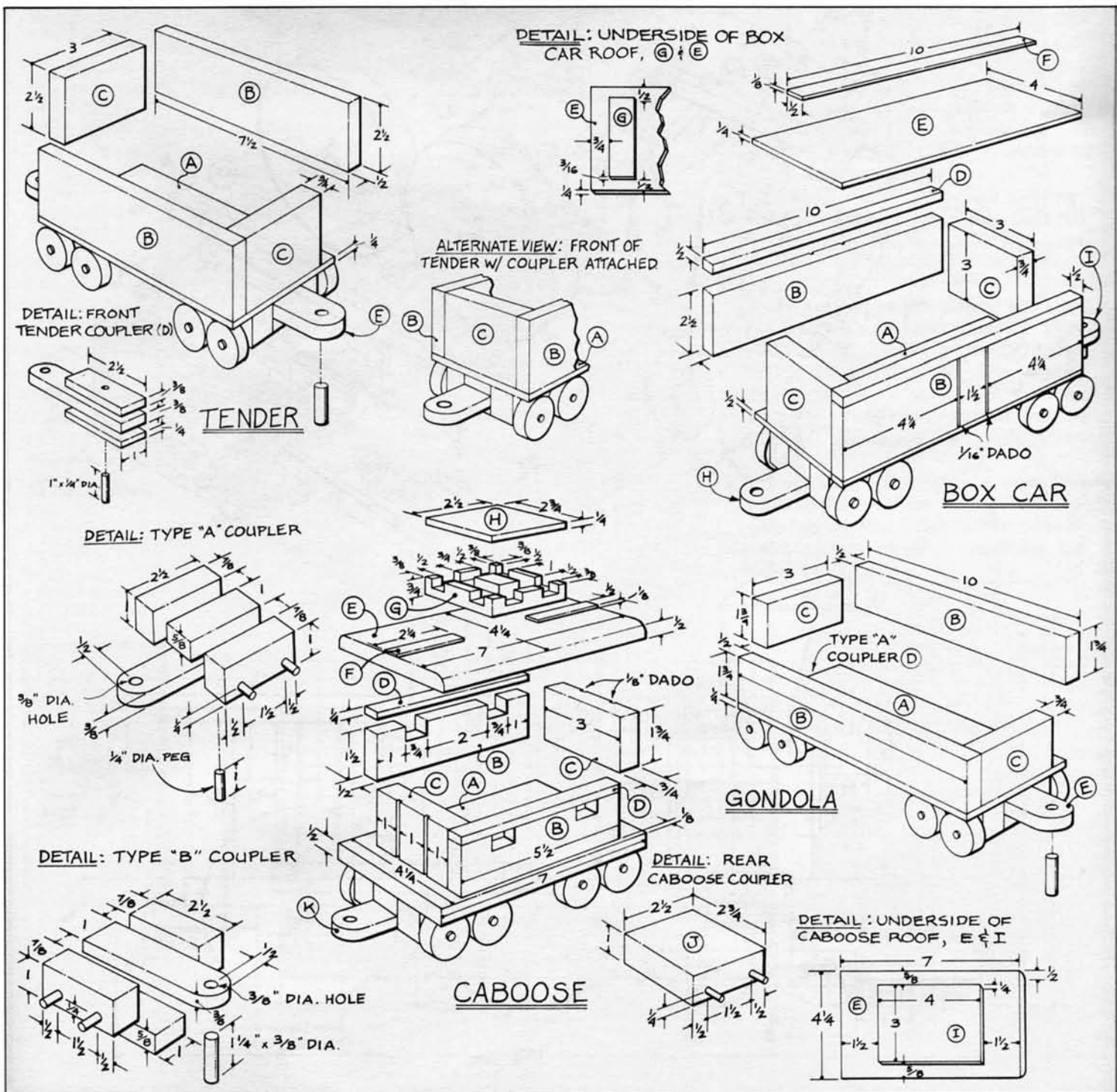
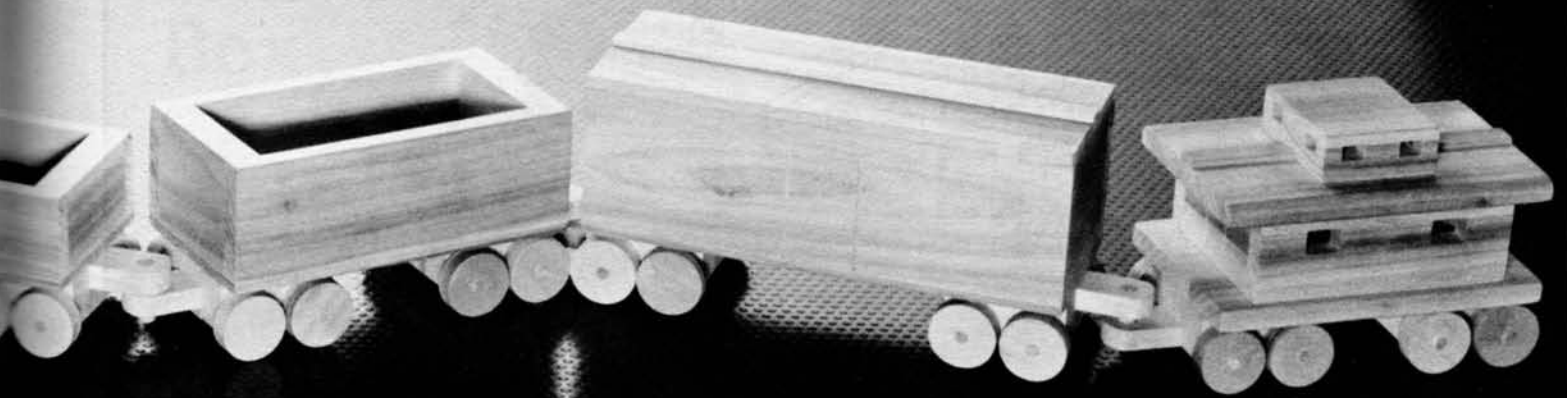
The completed train should be given a complete sanding, taking special care to round all edges and sharp corners. The safest non-toxic finish is none at all. W&J

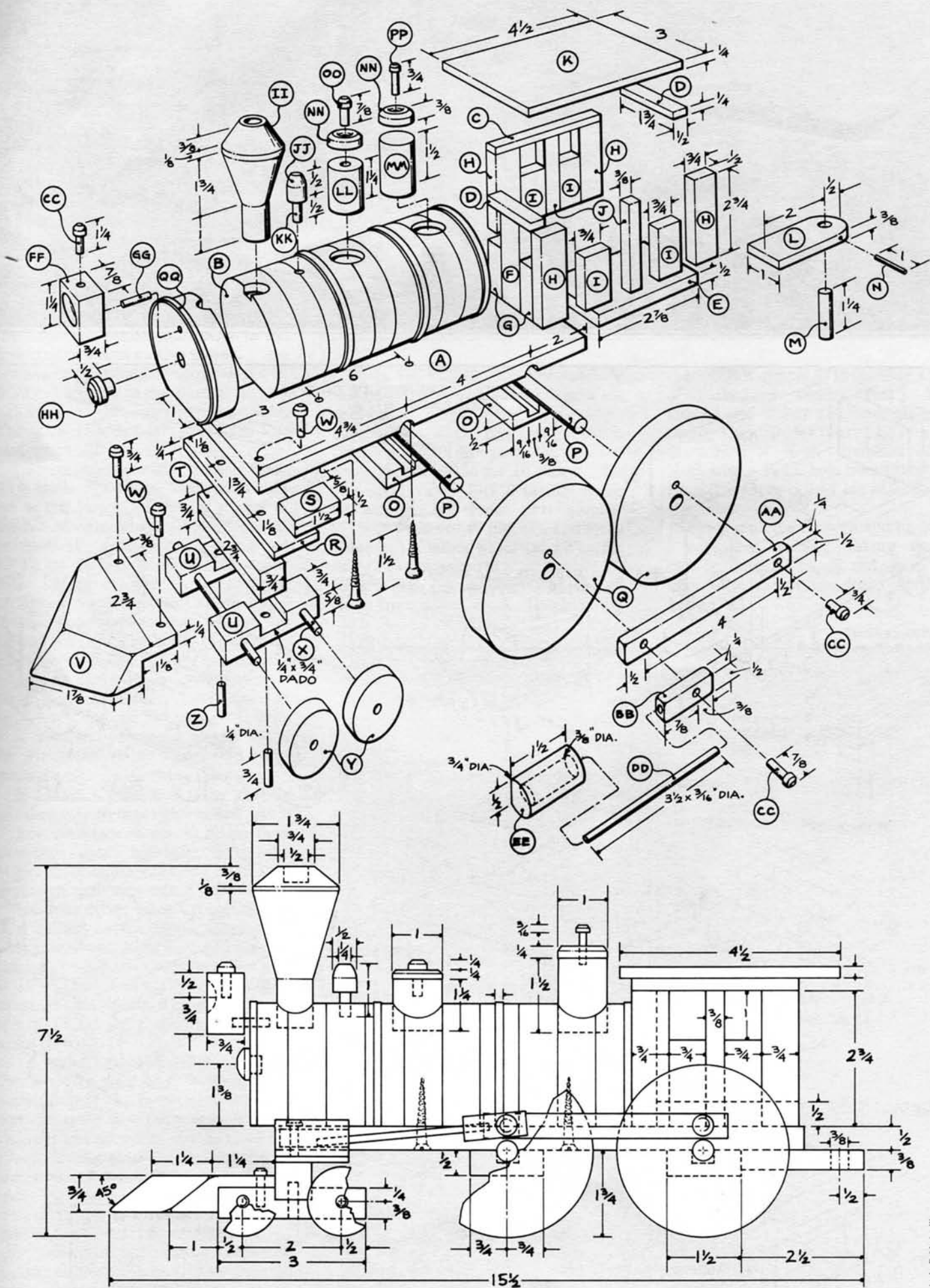
Bill of Materials
(All Dimensions Actual)

Part	Description	Size	No. Req'd
Locomotive			
A	Main Chassis	1/2 x 2 3/4 x 10 3/4	1
B	Boiler	2 1/2 Dia. x 7 1/2	1
C	Roof Support	1/4 x 1/2 x 3 1/4	2
D	Front Roof Support	1/4 x 1/2 x 1 1/4	2
E	Cab Floor	1/2 x 1 3/4 x 2 1/2	1
F	Cab Front	1/2 x 3/4 x 3	1
G	Cab Front	1/2 x 1/2 x 1 1/4	2
H	Cab Side	1/2 x 3/4 x 3	4
I	Cab Side	1/2 x 3/4 x 1 1/4	4
J	Cab Side	3/4 x 1/2 x 3	2
K	Cab Roof	1/4 x 3 x 4 1/2	1
L	Tender Linkage Bar	3/4 x 1 x 2 1/2	1
M	Tender Dowel	3/4 Dia. x 1 1/4	1
N	Dowel Pin	1/4 Dia. x 3/4	1
O	Driver Axle Support	1/2 x 2 3/4 x 1 1/2	2
P	Driver Axle	3/4 Dia. x 3 3/4	2
Q	Driver	3 3/4 Dia. x 1/2 thick	4
R	Pilot Truck Support	1/4 x 1 1/2 x 4	1
S	Cylinder Intake Block	1/2 x 3/4 x 1 1/2	2
T	Cross Member	3/4 x 3/4 x 2 1/4	1
U	Pilot Truck	3/4 x 3/4 x 3	2
V	Cowcatcher	3/4 x 2 3/4 x 3 1/2	1
W	Marker Light	(See Drawing)	2
X	Pilot Wheel Axle	1/4 Dia. x 3 3/4	2
Y	Pilot Wheel	1 1/4 Dia. x 1/2 thick	4
Z	Pilot Truck Dowel	1/4 Dia. x 3/4	2
AA	Tie Rod	1/4 x 1/2 x 5	1
BB	Rod Connector Block	1/4 x 1/2 x 1 1/4	1
CC	Tie Rod Dowel	(See Drawing)	5
DD	Push Rod	3/16 Dia. x 3 1/2	2
EE	Cylinder	3/4 Dia. x 1 1/2	2
FF	Lantern	3/4 x 3/4 x 1 1/4	1
GG	Lantern Support Pin	3/16 Dia. x 1 1/4	1
HH	Number Plate	(See Drawing)	1
II	Stack	(See Drawing)	1
JJ	Whistle	(See Drawing)	1
KK	Dowel	3/16 Dia. x 3/4	1
LL	Sand Dome	1 Dia. x 1 1/4	1
MM	Throttle Dome	1 Dia. x 1 1/2	1
NN	Dome Cap	(See Drawing)	2
OO	Dowel Pin	(See Drawing)	1
PP	Dome Dowel Pin	(See Drawing)	1
QQ	Banding	1/32 thick x 3/16 wide	4

Bill of Materials
(All Dimensions Actual)

Part	Description	Size	No. Req'd
Gondola			
A	Floor	1/4 x 4 x 10	1
B	Side	1/2 x 1 3/4 x 10	2
C	Front & Back	1/4 x 1 1/4 x 3	2
D	Type "A" Coupler	(See Detail)	1
E	Type "B" Coupler	(See Detail)	1
Caboose			
A	Floor	1/2 x 4 1/4 x 7	1
B	Side w/Windows	1/2 x 1 1/2 x 5 1/2	2
C	Front & Back	3/4 x 1 3/4 x 3	2
D	Side Roof Support	1/4 x 1/2 x 5 1/2	2
E	Roof	1/2 x 4 1/4 x 7	1
F	Cat Walk	1/4 x 1/2 x 2 1/4	2
G	Cupola	3/4 x 2 3/4 x 2 1/2	1
H	Cupola Roof	1/4 x 2 3/4 x 2 1/2	1
I	Locator	1/4 x 3 x 4	1
J	Rear Caboose Coupler	(See Detail)	1
K	Type "A" Coupler	(See Detail)	1
Tender			
A	Floor	1/4 x 4 x 7 1/2	1
B	Side	1/2 x 2 1/2 x 7 1/2	2
C	Front & Back	1/2 x 2 1/2 x 3	2
D	Front Tender Coupler	(See Detail)	1
E	Type "B" Coupler	(See Detail)	1
Box Car			
A	Floor	1/4 x 4 x 10	1
B	Side	1/2 x 2 1/2 x 10	2
C	Front & Back	3/4 x 3 x 3	2
D	Side Rail	1/2 x 1/2 x 10	2
E	Roof	1/4 x 4 x 10	1
F	Cat Walk	1/4 x 1/2 x 10	1
G	Locator	3/16 x 1 x 3	2
H	Type "A" Coupler	(See Detail)	1
I	Type "B" Coupler	(See Detail)	1





Mitten Box



The long winter season will soon be here, and for many of us it brings along plenty of cold and snowy weather. If you've got kids, you probably know that wet mittens are as much a part of the winter scene as rosy cheeks and cold toes.

Here's a weekend project that will provide a handy place to store those soggy mittens. We used $\frac{3}{4}$ in. thick pine for ours, although just about any type of wood can be used. The bottom is slatted to allow for ventilation which will help dry things out.

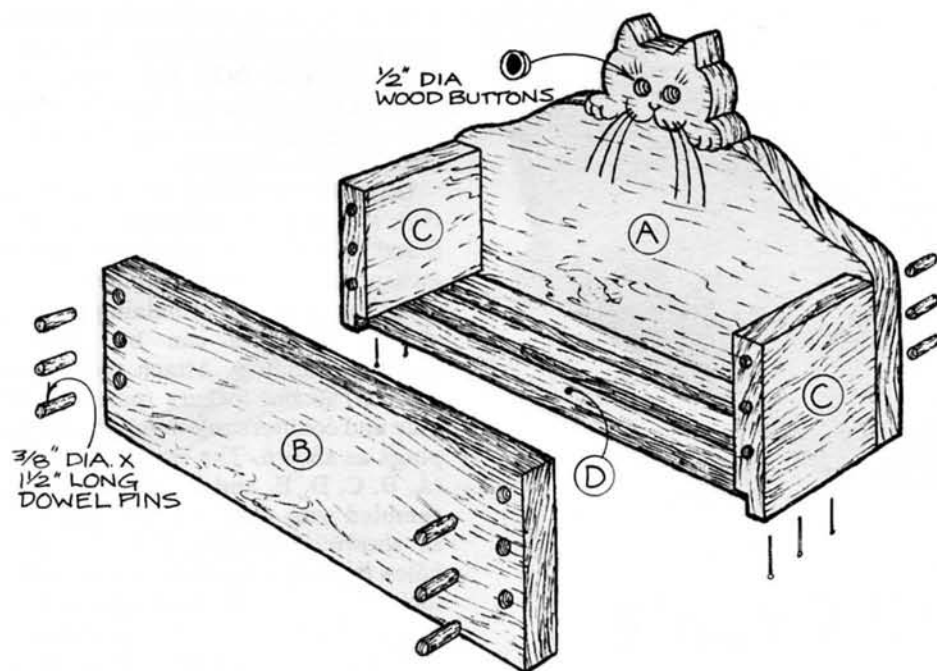
Since the back (A) requires wide stock, it will be necessary to edge-glue two or three narrower boards to get enough width. Once stock has been edge-glued, cut to overall length and width, then transfer the kitten profile as shown. Cut out with a band or saber saw.

The remaining parts are cut as shown. Note that a $\frac{1}{2}$ in. by $\frac{1}{2}$ in. rabbit is cut along the bottom edge of parts C. The slats (parts D) are cut to $\frac{1}{2}$ in. thick by $\frac{3}{4}$ in. wide.

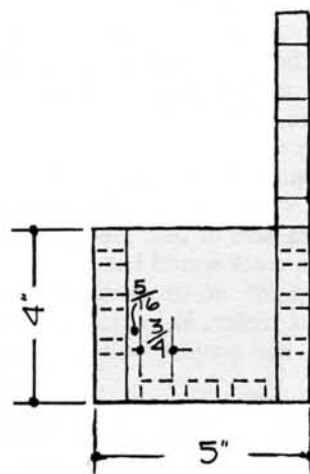
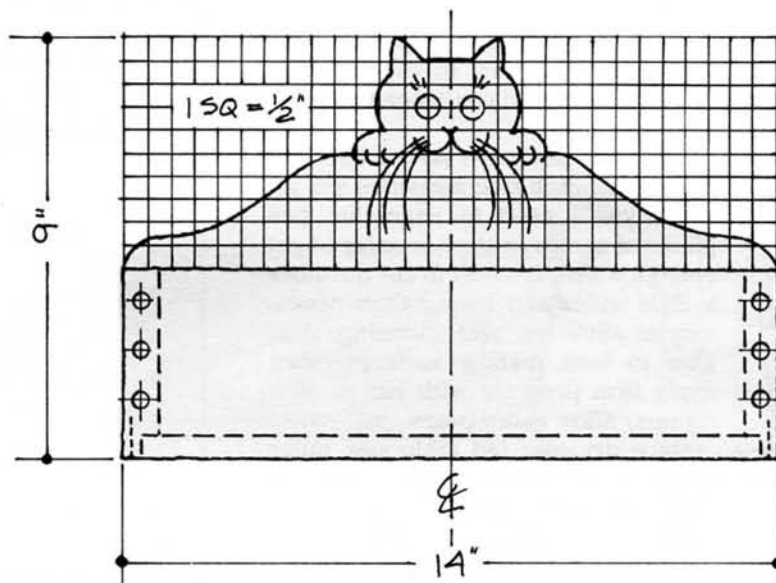
Give all parts a thorough sanding, then assemble as shown. The slats (D) are joined to the sides (C) with glue and a single finishing nail through each end.

We used a woodburning tool to burn in the kitten's face and whiskers. They can also be carved, or simply added with a felt marking pen. The "eyes" are a pair of $\frac{1}{2}$ in. dowel buttons. Apply a coat of enamel to the button, then use a black felt marker to darken the inside.

Final sand, then stain to suit. Two coats of polyurethane varnish will provide a good final finish. A pair of saw-tooth picture hangers completes the project. WwJ



The Gift Shop





Hooded Doll Cradle

This charming piece is a scaled down version of an authentic Early American hooded cradle. The original was made of pine, so that wood is a good choice, but maple, cherry, or oak can also be used.

The original cradle had $\frac{3}{4}$ in. thick stock, but since this project is about one-half the size of that piece, we felt $\frac{1}{2}$ in. thick stock would look best from the standpoint of proportion. However, if you prefer, $\frac{3}{4}$ in. stock can be used and the project will still look good.

A piece like this, with its many compound angles, is best made by cutting and fitting as you go along. Don't try to cut all the parts first and then assemble them. Several of the dimensions in our bill of materials (parts

B, C, D, E and F) are approximate and should be used only to estimate the amount of material you'll need to make the project.

The two sides (parts A) can be made first. Since each side measures $9\frac{1}{8}$ in. wide, you'll need to edge-glue two pieces of narrower stock in order to get enough width. It's best to cut the stock a little wider and longer than necessary to allow for later trimming. Add glue to both mating surfaces, then apply firm pressure with bar or pipe clamps. Allow to dry overnight.

Once dry, use the table saw miter gauge to cut the 10 degree angle on each end, trimming the piece to finish length at the same time. Now, tilt the table saw blade to an angle of 10 degrees and use the rip-fence to cut the

bevel along the bottom edge.

At a point $4\frac{1}{2}$ in. from the bottom of part A, scribe a horizontal line across the stock. Next, referring to the drawing, transfer the curved profile to part A. Now, with the curved profile and the horizontal line as guidelines, use a saber or band saw to cut out the stock. The cutout that results can be used as stock for part D.

Now, set the table saw miter gauge to 10 degrees and tilt the sawblade to 32 degrees. Then, with the back edge of part A against the miter gauge, cut the angle along the top.

The front (part B), and the bottom (part G) can now be cut to overall length and width. Use the table saw miter gauge to cut the 10 degree angle on each end of part B. Following this, tilt the table saw blade to an angle of 10 degrees and use the rip-fence to cut the bevel along the bottom edge.

The back (part C) is approximately $10\frac{1}{4}$ in. wide so you'll need to edge-glue stock here. As always, be sure to allow extra on both the length and width. Cut the side angles and the bottom edge bevel following the procedure used to cut part B.

Drill pilot holes for finishing nails, then temporarily tack parts A to parts B and C. Parts D, E, and F can then be measured to cut and fit in place.

After cutting the remaining parts as shown, all parts can be given a thorough sanding. Attach the bottom (part G) to the rockers (part H) with glue and countersunk wood screws and plugs as shown. The cradle unit parts (A, B, C, D, E, and F) can now be assembled with glue and finishing nails as shown. Following this, drill pilot holes for finishing nails in the bottom (part G), then join the cradle unit by driving the nails from the underside.

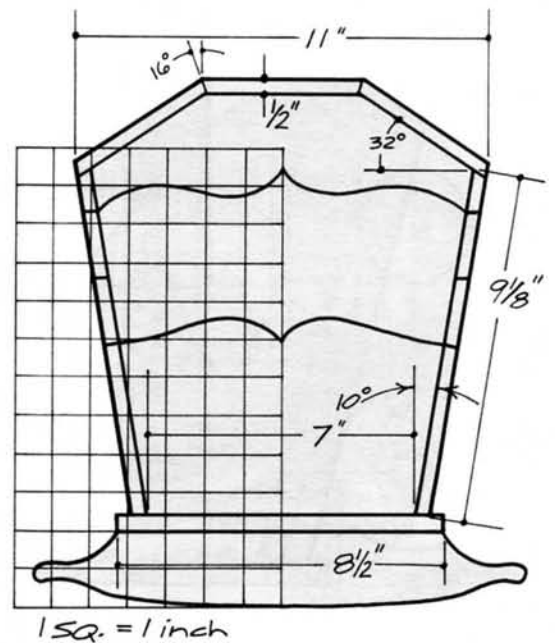
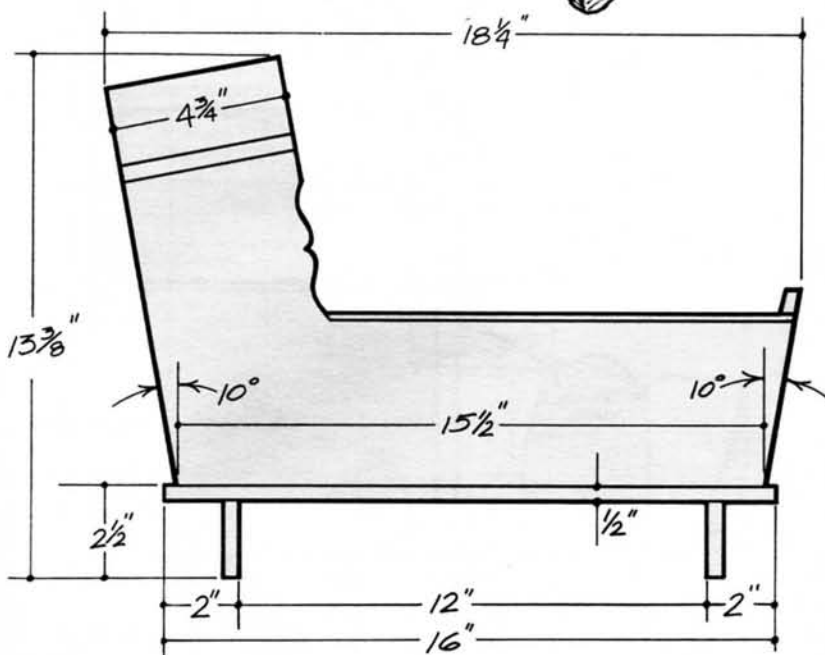
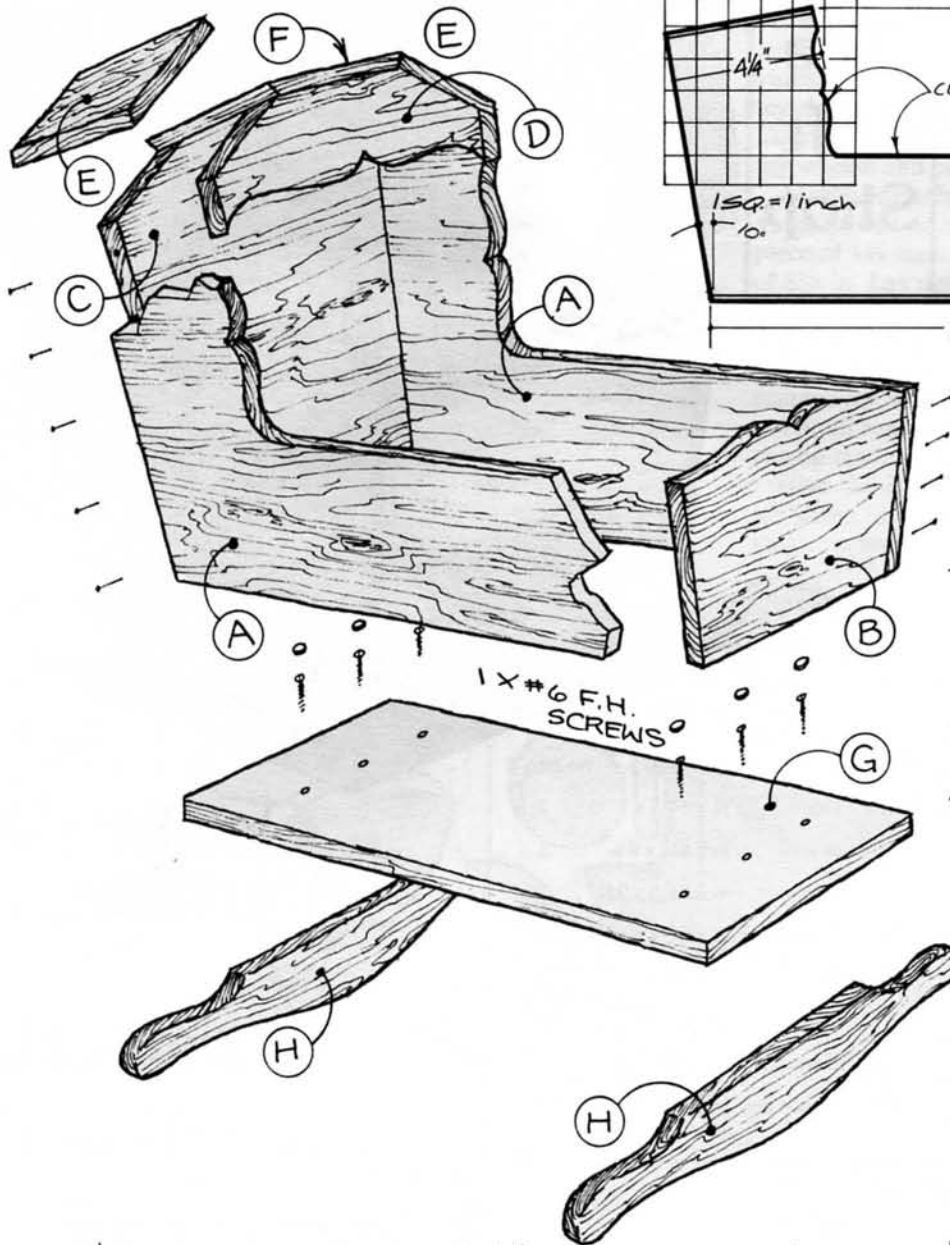
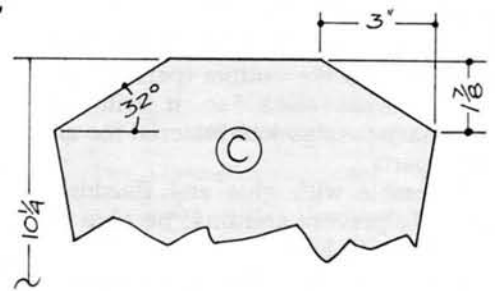
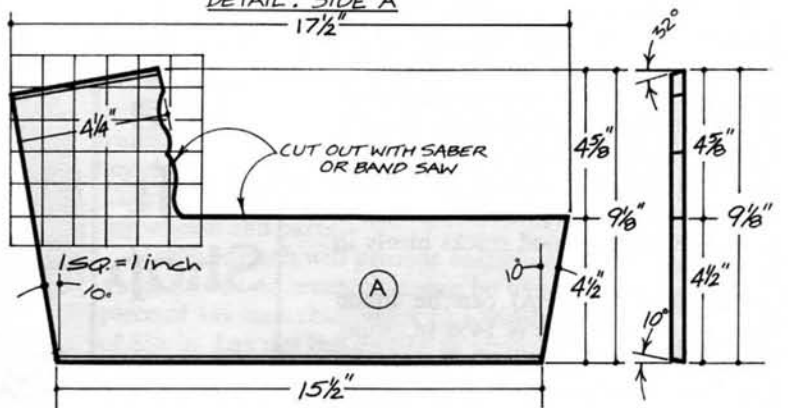
Final sand all surfaces taking care to round all sharp corners and edges. Apply stain to suit, then finish with two coats of polyurethane varnish.

W&J

Bill of Materials
(All Dimensions Actual)

Part	Description	Size	No. Req'd
A	Side	(See Detail)	2
B	Cradle Front	$\frac{1}{2}$ x $5\frac{1}{4}$ x $8\frac{3}{4}$	1
C	Back	$\frac{1}{2}$ x $10\frac{1}{4}$ x $10\frac{1}{4}$	1
D	Hood Front	$\frac{1}{2}$ x 15 x 10	1
E	Hood Top	$\frac{1}{2}$ x $4\frac{1}{4}$ x $4\frac{3}{4}$	2
F	Hood Center	$\frac{1}{2}$ x $4\frac{1}{4}$ x $4\frac{3}{4}$	1
G	Bottom	$\frac{1}{2}$ x $8\frac{1}{2}$ x 16	1
H	Rockers	$\frac{1}{2}$ x 2 x 13	2

DETAIL: SIDE A



Not too many years ago, the coal scuttle was an important piece of equipment in many homes. We used pine to make this charming adaptation of one, and found that it can be put to a number of uses around the home. We use it to hold magazines, but it also serves well as a planter or waste-basket. Kindling wood stacks nicely in it too.

The sides (parts A) can be made first. Since each side is $14\frac{1}{2}$ in. wide, you'll need to edge-glue two pieces of 1 by 8 stock (which actually measures $\frac{3}{4}$ in. thick by $7\frac{1}{4}$ in. wide). Apply glue to both mating surfaces, then use bar or pipe clamps to clamp the stock together. Once dry, remove the clamps, then transfer the curved profile from the drawing. Cut to shape with a band or saber saw.

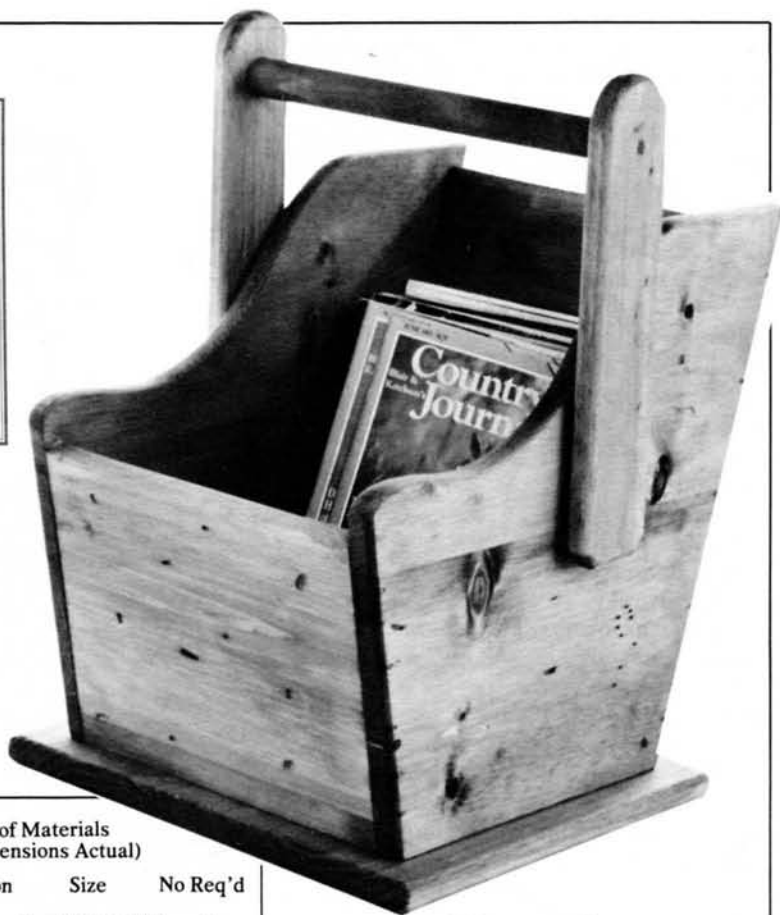
Note that the front (part B), the back (part C), and the bottom (part D), all require wide stock, so it will be necessary to edge-join material for all these parts.

Assemble with glue and finishing nails. To prevent splitting, be sure to first drill pilot holes.

Give all parts a thorough sanding, taking care to round over all edges. To give ours an "antique" look we did some judicious distressing with a hammer.

For a final finish we applied two coats of Minwax's Golden Oak stain followed by an application of their Antique Oil finish.

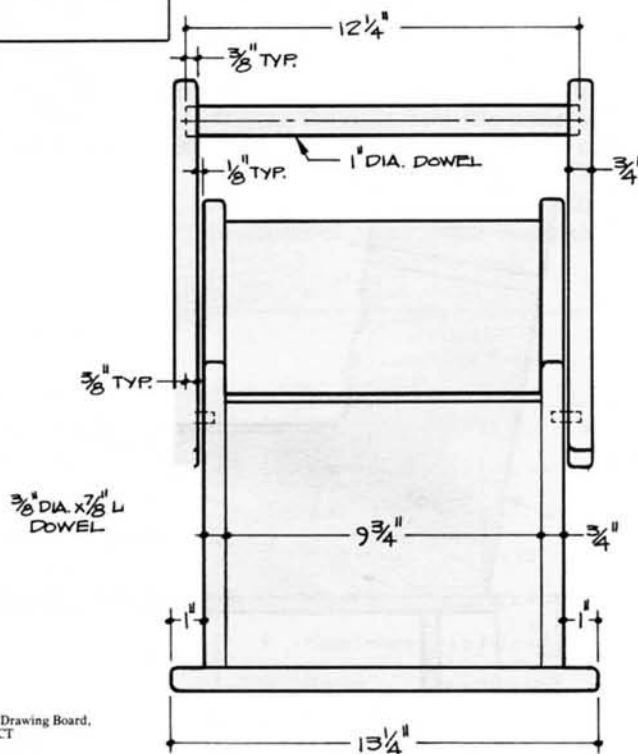
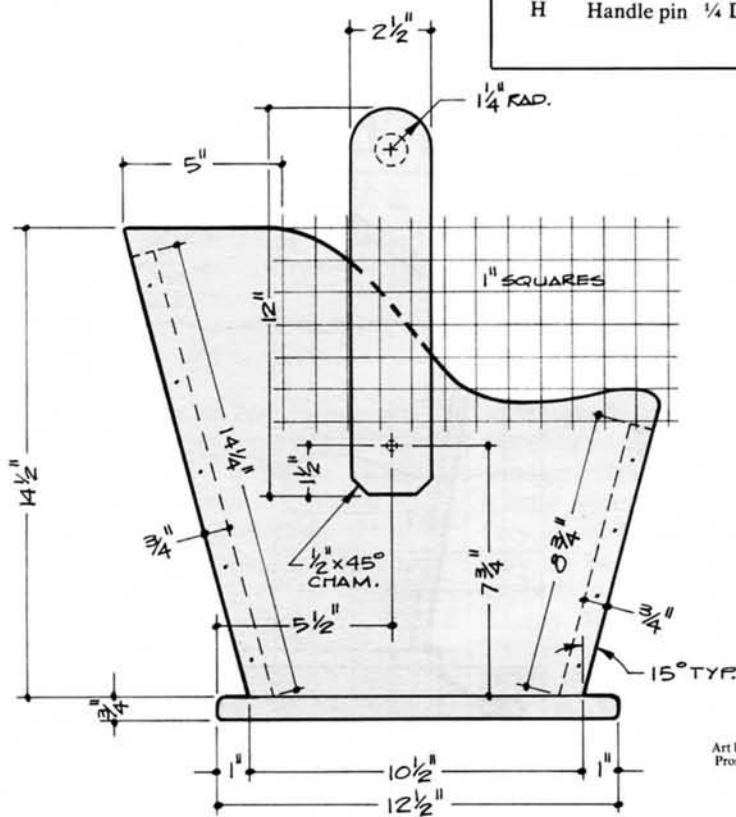
The Gift Shop



Coal Scuttle

Bill of Materials
(All Dimensions Actual)

Part	Description	Size	No Req'd
A	Side	$\frac{3}{4}$ x $14\frac{1}{2}$ x $17\frac{1}{2}$	2
B	Front	$\frac{3}{4}$ x $8\frac{1}{2}$ x $9\frac{3}{4}$	1
C	Back	$\frac{3}{4}$ x $14\frac{1}{2}$ x $9\frac{3}{4}$	1
D	Bottom	$\frac{3}{4}$ x $13\frac{1}{4}$ x $12\frac{1}{2}$	1
E	Hinge	$\frac{3}{4}$ x $2\frac{1}{2}$ x 12	2
F	Handle	1 Dia. x $12\frac{1}{8}$	1
G	Hinge pin	$\frac{1}{2}$ Dia. x $\frac{3}{4}$	2
H	Handle pin	$\frac{1}{4}$ Dia. x $1\frac{1}{2}$	2



Art by The Drawing Board,
Prospect, CT



Photo by Cherry Tree Toys

Here's a delightful toy that we think kids are sure to enjoy. And like the real elephants that roam the plains of Africa, this one moves its head up and down as it rolls along.

Our thanks to the people at Cherry Tree Toys for providing us with the plans. If you'd like a catalog of all their toy designs, send \$1.00 to them at 67131 Mills Road, St. Clairsville, OH 43950. Their catalog also includes hardwood toy wheels and parts.

Maple or birch will provide maximum durability, but just about any wood, even pine, can be used. Begin by cutting a piece of $1\frac{3}{4}$ inch thick stock to a width of 6 in. and a length of $8\frac{1}{4}$ in. Lay out the profile as shown on the grid pattern, then cut out with a band or saber saw.

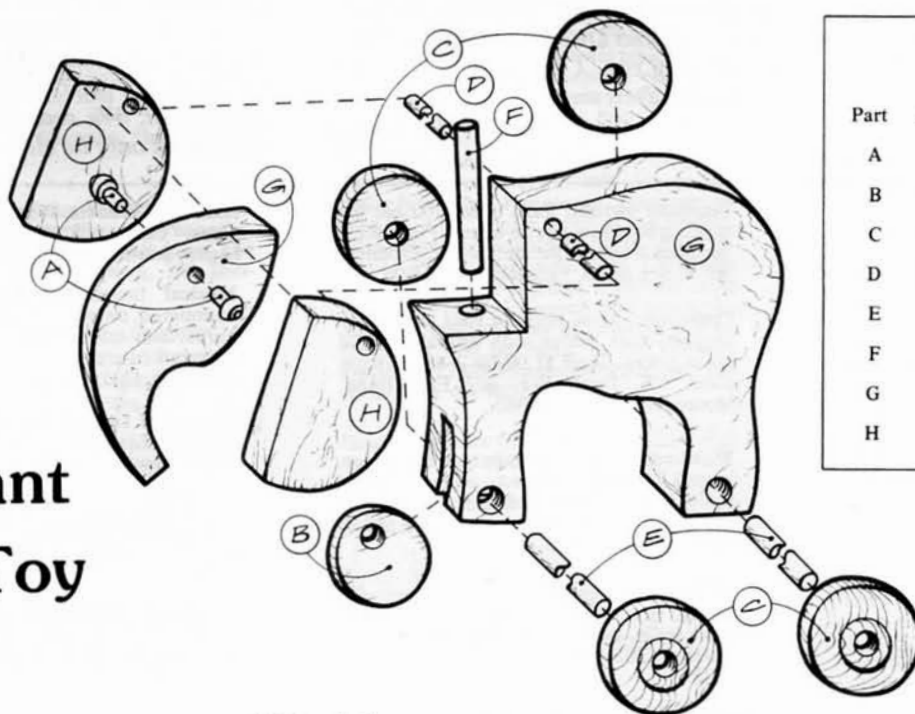
The $11/16$ in. wide slot is cut by hand with a back or dovetail saw. Make two parallel cuts to establish the width, then remove the waste with a sharp chisel.

Cut all remaining parts, then assemble. Parts A, B, and C can be made as shown or purchased from Cherry Tree Toys.

Give the final assembly a thorough sanding. Round over all sharp edges and corners. Since some finishes can be toxic, we feel the safest finish is none at all.

The Gift Shop

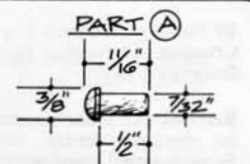
Elephant Push Toy



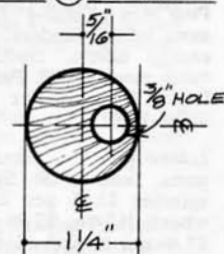
Bill of Materials
(All Dimensions Actual)

Part	Description	Size	No. Req'd
A	Eye	See Detail	2
B	Cam	See Detail	1
C	Wheel	See Detail	4
D	Pivot Pin	$\frac{1}{4}$ Dia. x $1\frac{1}{4}$	2
E	Axle	$\frac{3}{8}$ Dia. x $3\frac{3}{8}$	2
F	Push Rod	$\frac{3}{8}$ Dia. x $2\frac{3}{4}$	1
G	Body/Head	$1\frac{1}{4}$ x 6 x $8\frac{1}{4}$	1
H	Ear	$\frac{3}{4}$ x $2\frac{1}{2}$ x $3\frac{1}{4}$	2

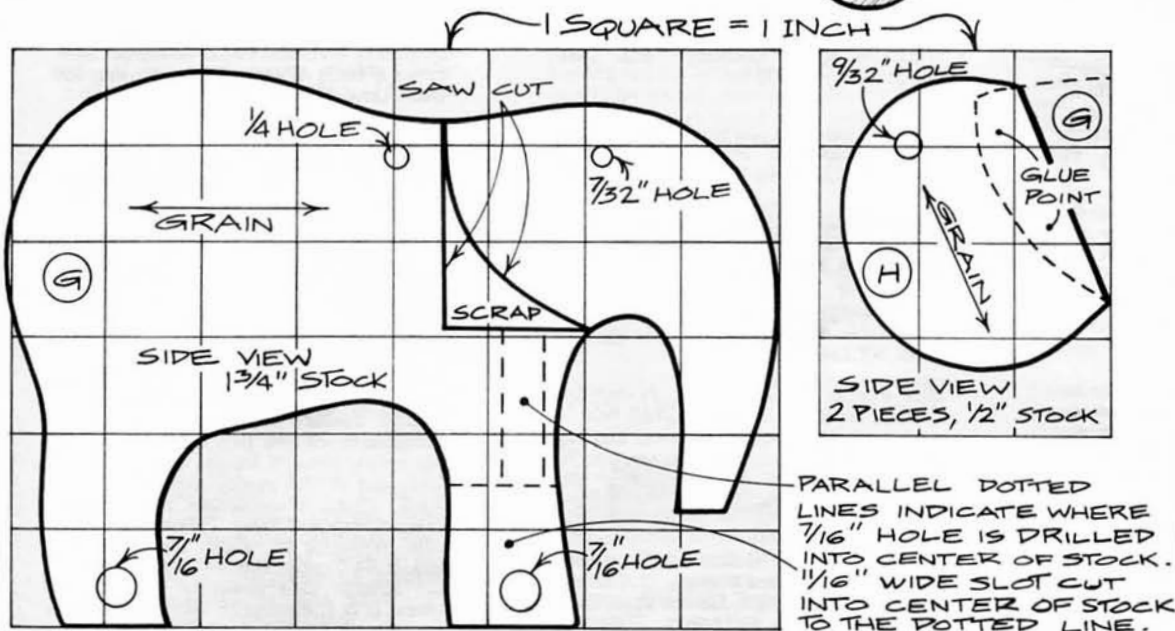
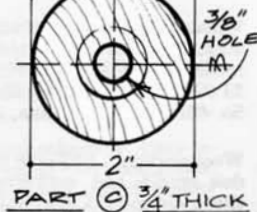
DETAILS: ACCESSORIES



PART (B) $\frac{5}{8}$ " THICK



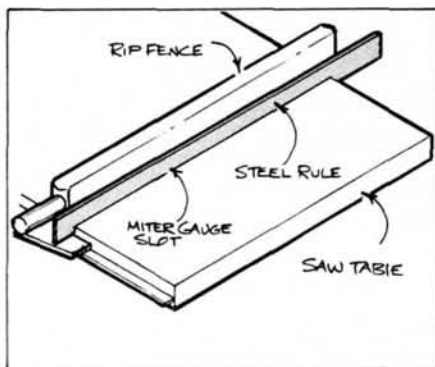
PART (C) $\frac{3}{4}$ " THICK



Shop Tips

Here's a method that eliminates guesswork when aligning the rip fence to the miter gauge slot. Loosen the retaining bolts on the rip fence, then butt the fence against a long steel rule (or carpenter's square) in the miter gauge. Make sure there's good contact between the fence, rule, and miter gauge. Tighten the retaining bolts and the fence will be parallel.

Reginald Norman, Denver, Col.



The use of steel wool to smooth wood finishes can leave particles in moldings and joints that are difficult to remove. Superior results can be obtained by using air conditioner or furnace filter material which is available from plumbing supply and some hardware stores. It is available in several grades of abrasiveness, does not shed material and, since each piece lasts a long time, is very economical to use.

Bob Plath, Brewster, N.Y.

When using an orbital sander, it becomes expensive and time consuming to change the sandpaper whenever it becomes torn or ripped. To alleviate this problem, I purchase sanding belts and cut them to size to fit my sander. Depending upon the size of the belt, it is possible to get 2 or 3 pieces from a single sanding belt. These pieces last a lot longer and are less expensive to use in the long run. I found that the sand-particles often wear off before the belt rips.

M. Domingue

Plattsburgh A.F.B., N.Y.

Here's a way to take the guesswork out of leveling chair or table legs. Place the four legs on a flat surface—the top of the table saw comes in handy for this. Hold a pencil on a 1/8 in. to 1/4 in. thick block of wood, then mark a point on each leg. Use a back saw to cut each leg off at the marked point. The legs are now level.

Here's a way to hide a light colored glue line on dark woods such as mahogany, cherry, walnut, and oak. Dip the end of your scratch awl into iodine, then carefully run the point of the scratch awl along the line. The iodine will darken the glue.

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.

Classified

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

10 Full-size Wooden Toy Patterns. \$5.00. Creative Craftgifts, Route 6, Box 183, Salem, VA 24153.

Red Oak and other Hardwoods, Kiln dried, no minimum order, shipping included. Send stamped envelope for catalog. Oak-N-More, 710 N. Park, Salem, MO 65560.

Poor Man's Catalog - U-Build power tools, saws, lathes, sanders, engraving machine, energy savers, crafts, furniture, toys, much more. \$3.00. Patterson Enterprises, Dept. W, P.O. Box 1390, Apopka, FL 32704-1390.

Lowest prices on furniture, craft and toy parts. Send \$1.00. Specials: gallery rail spindles \$3.95 per 25 ppd., maple toy wheels 3/4" dia. \$2.29 per 50 ppd., 1" dia. \$2.89 per 50 ppd., 1 1/2" dia. \$4.60 per 50 ppd. K & K Woodcrafters, RD 4, Box 270A, Scotia, NY 12302.

Wood Whirligigs. Full-size patterns, instructions. 13"-22" bee, coyote, duck, roadrunner, cat, songbird, dog, chipmunk. \$3.00 each or any four, \$10.00. Skov, 3380 So. 4th Ave., #54, Yuma, AZ 85365.

Woodworkers - Full-size plans for rocking doll cradle and matching three drawer chest. Great for Christmas gift or for sale. \$3.00 each or both for \$5.00. Send to Woodchuck, 20 Wamesit Ave., Saugus, MA 01906.

Bandsaw owners: Earn over \$100 per day making bandsaw puzzle boxes. Plans \$5.95 includes 4 styles. Bennett Wood Products, Rt. 8, Box 680-S, Pensacola, FL 32506.

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

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

35 Full-Size Toy Patterns! Ten cars, six trucks, two airplanes, nine hot-rods, six-piece train, two earthmovers! Only \$5.00! Franks, 1202-J18 Second, Booneville, MS 38829.

Woodworkers: Make \$100.00 every Saturday with your shop scraps! Complete instructions \$3.00. Cedartree, Box 744P, Oregon City, OR 97045.

Free!... I can help you start exciting wood-working business. Free brochure! Pine Shop, 78-WJ3, West Peterboro, NH 03468.

Antique Wooden Cars - Plans, Kits, Parts. Catalog \$1.00. T.J.'s Craftshop, Box 5074, Athens, GA 30604.

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

New Power Tool Accessory, Professional quality, all steel, adjustable, ball bearing work support stands. Convenient and rugged for use with your saws, planer, etc. For details write: BB Manufacturing, Box 2336W, Arcadia, FL 33821.

Wooden Wheels, Bells, Smoke Stacks, beads, dolls, wooden buttons, and unique toy plans. Catalog \$0.00. Howee Toys, Rt. 7, Box 633WJ, Joplin, MO 64801.

Hardwood Wheels, Wooden Car and Truck plans. Catalog \$1.00. Woodys, 821 S. Logan, South Bend, IN 46615.

Musical Instrument Kits - Dulcimers, hammered dulcimers, banjos, mandolins, harps, and more. Brochure - 37¢ stamp. Folkcraft Instruments, Box 807K Winsted, CT 06098, (203)-379-7685.

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

Woodcraft Plans! 26 Toys \$5.95! 67 Ornaments \$6.95! Catalog \$1 (refundable). Anderson's, 6715-J2 Chicago, Richfield, MN 55423.

Toy Plans - Wooden Wagon, Tank, Ambulance, helicopter and surprise item. Original with complete details. All for \$5.00. B & C Crafts, 1200 E. 9th, Johnson City, TN 37601.

Free Information - Sculptors/Carvers. Anatomically technical visual reference blueprints of birds of prey. Denny Rogers, 309 Daisy Lane, Normal, IL 61761.

Beautiful Furniture from Construction grade lumber. 41 page manual. 6 projects. Send \$5.00 to A.B.L. Dist., WJ Box 1152, Jacksonville, IL 62651.

List Classifies Hundreds Woodworking plans from many sources. Only \$1.00. Planlist, 3946A West Claredon, Phoenix, AZ 85019.

Sale - Wood Master 5 in 1 Combination Tool, with 110/220 volt 3 H.P. motor. \$865.00. Limited supply at these prices. Accessories are now 10% off list price. All sale items, shipped freight collect. All orders must be with money order or certified check. Phone conversations after 5 p.m. Eastern Standard Time. Please NO collect calls. Write for literature. Model LS1400 Makita 14" miter saw \$459.00. Rockwell and Hitachi also available at discount prices. G & C Enterprise Inc., Box 64AA, Engadine, MI 49827, (906)-477-6591.

Classified (cont'd)

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

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

Woodworkers! 8 full-sized Patterns of cars & trucks from scrapwood. \$3.00. Tubicity Graphics, Box 322, Milton, MA 02186.

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

Grid Paper: Special - 1" Sq. 27 x 34 - 5 sheets for \$4.00. Additional sheets 75¢ ea. Brandywine Wood & Tool, 2413 Driftwood Dr., Wilmington, DE 19810

Catalog Full-Sized Furniture Plans - \$2.00. Refunded with first order. Traditional, Early American, over 170! Furniture Designs, 1425 Sherman, Dept. CJ-93, Evanston, IL 60201.

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

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

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

Stringed Instrument Kits! Build dulcimers, mandolins, even harps, lutes, harpsichords. Free catalog of kits, completed instruments, books. W.J. Hughes, 4419 West Colfax, Denver, CO 80204.

Toymaking for Fun, Profit!! Illustrated ideas!! Patterns, supplies, wheels!! Information free. Morgan, W04B02, 1123 Bardstown, Louisville, KY 40204.

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

Bandsaw Owners! Fabricate Any Length bandsaw blade from inexpensive roll stock in minutes! Our new tool enables craftsmen to repair broken blades or to respice many times making inside cut-outs practical. Complete tool and supplies for approx. 100 splices. \$39.00 ppd. Send SASE for Free information: New Milford Specialties, 24A South Main St., New Milford, CT 06776.

Dulcimer Builders Supplies - precision milled and fine sanded dulcimer and hammered dulcimer woods. Cherry, walnut, paduk, koa, rosewood, birdseye maple, sitka spruce, W.R. cedar. Related hardware & strings. 37¢ stamp for brochure. Folkcraft Instruments, Box 807W, Winsted, CT 06098. (203)-379-7685.

Rolltop Desk. Complete Detailed Plans. Raised panel construction; \$7.95. Doll furniture. Cut six chairs and five tables from a 6" block of wood using bandsaw or coping saw; \$3.50. Bud's Plans, 2960 Egan Ave., Eagan, MN 55121.

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

Miniature Furniture Patterns. Dollhouse Plans. Basswood, Hinges, tools, books, wallpaper. 1" to 1" scale. Catalog \$1.00. Green Door Studio, Dept. WJ, Box 6200, St. Paul, MN 55118.

Quality 350 lb. Wood Lathes (60" centers) \$635. 150 lb. with 45" centers \$400. Duplicators \$125. Drill presses, 20" wheel bandsaws \$900. Compound feeds, spindles, dimensional shorts. H. Barker, 3108 Klingler Rd., Ada, OH 45810.

Lowest Prices on Sanding Drum Kits: .15 piece kit has 5 sizes, regular lengths \$8.75. 2" length 4 sizes \$10.00. \$1.75 for postage. Workbench Tool Co., 128 3rd, East Dubuque, IL 61025, (815)-747-3580.

Full-Size Plans for the Most Flexible Power tool jig accessories. Universal table saw jig does tenoning, splined miters, circle cutting, tapering, multiple cross cutting, production, more. Universal drill press jig turns drill press into overhead shaper, pin router, sanding center. Provides indexing, support for round stock, tool storage and many invaluable accessories. Plans are on four 30" x 42" sheets plus text and instructions. Plans are mailed in tubes. Price includes First Class mail. The Christmas present for woodworkers! Universal table saw jig - \$14.50. Universal drill press jig - \$20.00. Catalog of tool accessories and information - \$1.00. Send to DeCristoforo Designs, 27082 Horseshoe Lane #4, Los Altos Hills, CA 94022.

New Designs for Children's Furniture. Full size prints. No enlarging necessary. Rocking horse \$6.00. Catalog 50¢. Quality Woodcrafts, 359 Trousdale, Suite C, Chula Vista, CA 92010.

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Burlwood Slabs-all sizes. Redwood burl, Buckeye, Juniper, Birdseye Maple, Olive, Fig. Myrtlewood dimensional lumber and turning stock. Clock movements, pens, belt buckle hardware, pouring resin. Free brochure. Redwood Burl-Esque, Dept. WJ11, 1454 Orchard Home Drive, Medford, OR 97501.

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

Waterbeds You Build! Plan and Accessory catalog \$1.00. Waterbeds, 1210-F Street, Vancouver, WA 98661.

Doll Cradle Plans: Detailed Drawings, Pictures and written instructions. Unique colonial four-poster design. Also how to obtain a professional finish, giving brand names of products, without using sticky varnish or lacquers. \$5.00. Norwegian Woods, Box 366, Dept. 212C, Flagstaff, AZ 86002.

Unique Chair - Rocks Without Rockers. Easily removable cloth seat. Folds in half for storage. Material costs under \$10.00. Detailed plans \$4.00. Bennett Wood Products, Rt. 8, Box 680-S, Pensacola, FL 32506.

Dowel Jig Kit: dowl-It Model 1000, plus 125 dowels of each size: 1/4", 5/16", 3/8", 1/2": \$30.50. Lowest prices on birch dowels: 1 1/2" spiral groove, 1/4", 5/16", 3/8": \$3.75 for 200. \$17.50 for 1000. Workbench Tool Co., 128 3rd, East Dubuque, IL 61025. (815)-747-3580.

Woodcarvers, Basswood Cutouts, Popular Patterns. Low cost. SASE for catalog. Nicol's, Rt. 3J, Russellville, AR 72801.

Woodworkers - Quick and Easy Spare-time projects, great for gifts, profits, etc. Denny's Woodshop, 304WJ Brian, Mt. Horeb, WI 53572.

Bargains in Hinges, Handles, Dowel Pins, (screws, eyes, hooks) screws and more. Send stamp for list. Roses, 184C Winter St., Weston, MA 02193.

7 Plans Using Country Washboards. Lamp, magazine rack, recipe file, paper towel dispenser, planter, spice cabinet with clock, medicine cabinet. Plans \$3.50 each, 7 for \$18.50. Remember Grandpa's Outhouse? Rustic front door message center. Plans \$3.50. Tater Bins! Shaker design, 3 large bins, air flow preserves produce longer. Plans \$4.50. All plans easy to build, sell fast. Jim's Workbench (J113), Box 783, Ellijay, GA 30540.

Free Catalog. Lawn, Patio, Familyroom and children's furniture plans. 20¢ stamp. LLE, POB 35203 J, Phoenix, AZ 85069.

Original and Fast-Selling Kids Pencil or crayon holders. Full size patterns. 5 for \$3.00, 10 for \$5.00. J. Swingle, 20 Juniper Rd., Bristol, CT 06010.

Bicycle Maintenance Stand, Laminated plywood, 3/4 sheet. Sturdy, adjustable. Locking wedges provide exceptional rigidity, plus quick disassembly for storage. Plans \$5. Cyclekraft, 2516 N.E. 168th, Seattle, WA 98155.

Woodturning Challenge. Beautiful German flax spinning wheel. Plans \$8.00. RACO, Box 1165, Provo, UT 84603.

Prepare Your Portable or Small Table Saw for bigger and better work. Send \$7.00 and your saw type for complete plans covering table, precision fence and guard you can make yourself at fraction of big table saw cost. Clareplans, 3946A West Clarendon, Phoenix, AZ 85019.

Make Your Own Contoured Wheels on drillpress. Information SASE. Wheel-former, Box 443, St. Clair Shores, MI 48080.

Over 75 Patterns! Enjoy Making Profitable wooden gifts, toys, household accessories. Plus "shop secrets". Only \$5.00. Accents (J-113), Box 262, Danvers, MA 01923.

Shopsmith Owners: Lathe Duplicator designed especially for you. Also 6-in-1 lathe chuck. Brandywine Wood & Tool, 2413 Driftwood Dr., Wilmington, DE 19810.

Buck Guitar Kit - Comprehensive, Easy-to-assemble American-made rosewood dreadnought. The low price and superb quality will astound you. Write for free brochure. Buck Musical Instrument Products, Box 71A, New Britain, PA 18901.

Shop Notes