The Woodworker's Journal

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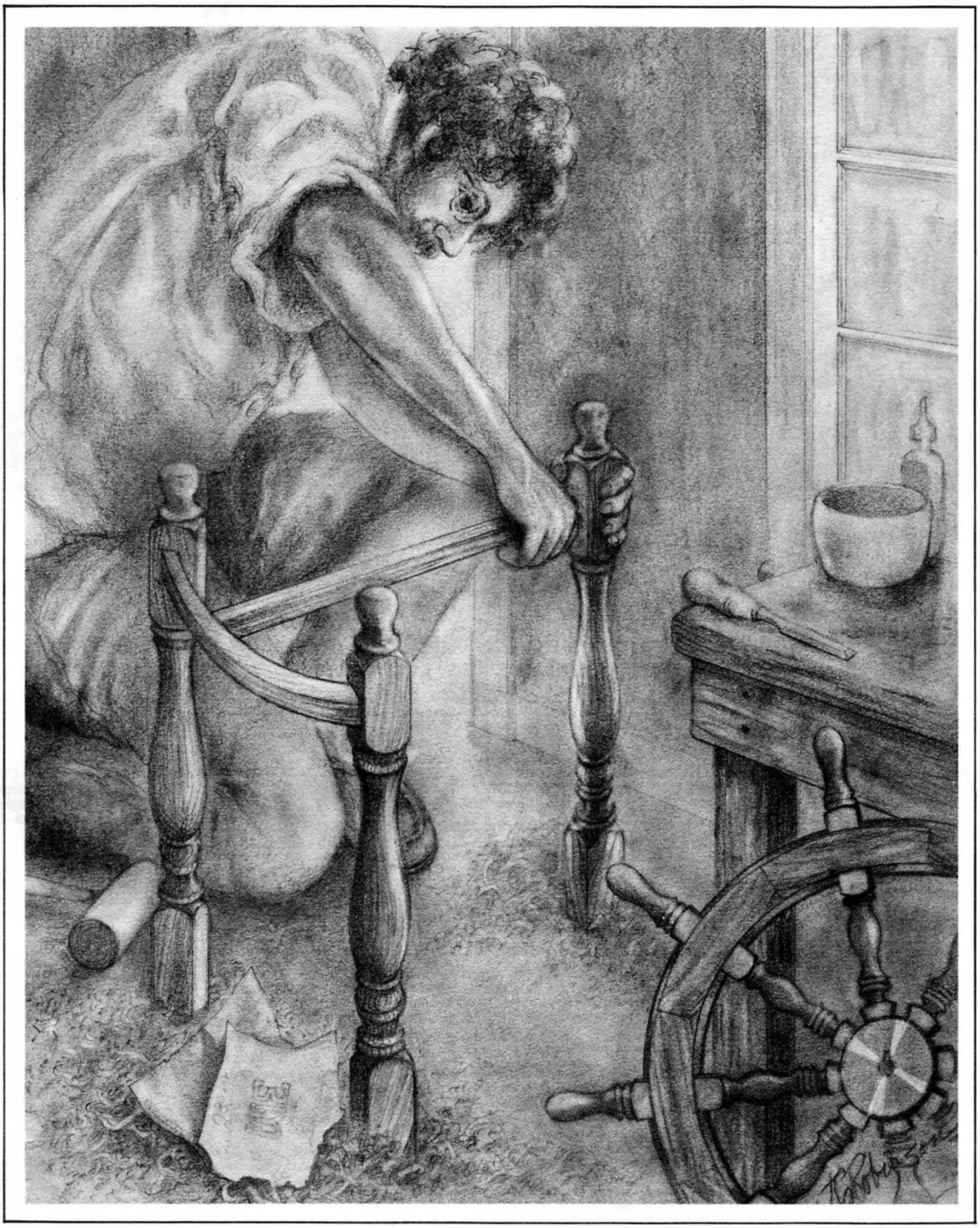


Included In This Issue:

Contemporary Buffet
Folding Sun Seat
Ship's Wheel Table
Child's Step Stool
Kiddie Gym
18th Cent. Sleigh Seat
3 Gift Items

Back Issues

Each issue of THE WOODWORKER'S JOURNAL is filled with fully detailed plans for all types of woodworking projects, from a roll-top desk to simple pull toys. Whether your taste is traditional or contemporary, you are sure to find interesting ideas in every issue. There are 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. 1 No. 2 Mar-Apr '77: Contemp. Coffee Table, Little Red Wagon, Shaker Bench, Fife-Rail Table Lamp, Shaker Wall Cabinet, Picture Frame, 3 Handy Kitchen Items, Bookcase Desk, Butcher's Table, Home-Made Clamp, Practical Bird Houses.

Vol. 1 No. 3 May-June '77: Colonial Plate Rack, 17th Cent. Hutch Table, Adirondack Lawn Chair, Picnic Table, 18th Cent. Blanket Chest, Shaker Candlestand, English Tea Box, Child's Swan Rocker, 3 Projects for Scrap Ends, Small Shaker Table, Toy Train, Table Saw Cove Cutting.

Vol. 1 No. 5 Sept-Oct '77: Taper Jig, Counting-House Desk, Dancing Man Folk Toy, Shaker Step-Chest, Duck Decoys, 3 Wall Decorations, Hutch Cupboard, Collector's Pier Cabinet, Box Joint Jig, Picture Frame.

Vol. 2 No. 5 Sept-Oct '78: Pine Wall Shelf, Nail Box Table Lamp, Doll Cradle, Contemp. Candle Lantern, Plant Stand, Shaker Wool Wheel Part I, Contemp. Table, Veneered Puzzle, Easy Picture Frames, Pine Gun Cabinet, Home-Built Planer for Radial Saw.

Vol. 2 No. 6 Nov-Dec '78: Stereo End Table, Contemp. Lamp, 6 Holiday Gifts, Shaker Wool Wheel Part II, Chopping Block Table, Improved Table Saw Tapering Jig, 18th Cent. Half-Round Table, Bird Feeder.

Vol. 3 No. 1 Jan-Feb '79: 18th Cent. Settle, Tenon Jigs, Pine Lap Desk, Contemp. Coffee Table, Roll-Top Desk Part I, Contemp. End Table, Plant Stand, Walnut Serving Tray, Curio Table, Candle Box, Wall Box, Tumbling Toby Toy, Colonial Spoon Rack.

Vol. 3 No. 2 Mar-Apr '79: Wood Weathervanes, Cranberry Scoop Magazine Rack, Roll-Top Desk Part II, Table Saw Jigs, Music Stand, Corner Shelves, Pine Blanket Chest, Shaker Style Bed, Magic Money Printer

Vol. 3 No. 3 May-June '79: Cherry Dressing Mirror, Medicine Cabinet, Patio Settee, Pine Dry Sink, Spanish Chest, Fishing Rod Rack, Small Utility Table, Hidden Maze Toy, Child's Wall Rack.

Vol. 3 No. 4 July-Aug '79: Sofa Table, Tea Cart, Candle Sconce, 2 Whittling Projects, Cabinetmaker's Table Lamp, Country Cupboard, Tablesaw Multi-Fence, 2 Pull Toys, Inlaid Spool Chest.

Vol. 3 No. 5 Sept-Oct '79: Shaker Table, Contemp. Tier Table, Porch Swing, Traditional Wall Clock, Wall Cabinet,Record & Tape Cabinet, Steam Bending, Bandsaw Resawing Jig, Home-Built Fence for Table and Bandsaws, Clam Digger's Basket, Crocodile Pull Toy, Galleried Wall Shelf.

Vol. 3 No. 6 Nov-Dec '79: Clothes Tree, Pine Floor Lamp, Harvest Table, 5 Holiday Gifts, 19th Cent. Washstand, Tablesaw Round Tapering Jig, Quilting Frame, Tot's Tricycle, Swedish Door Harp.

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

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

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

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

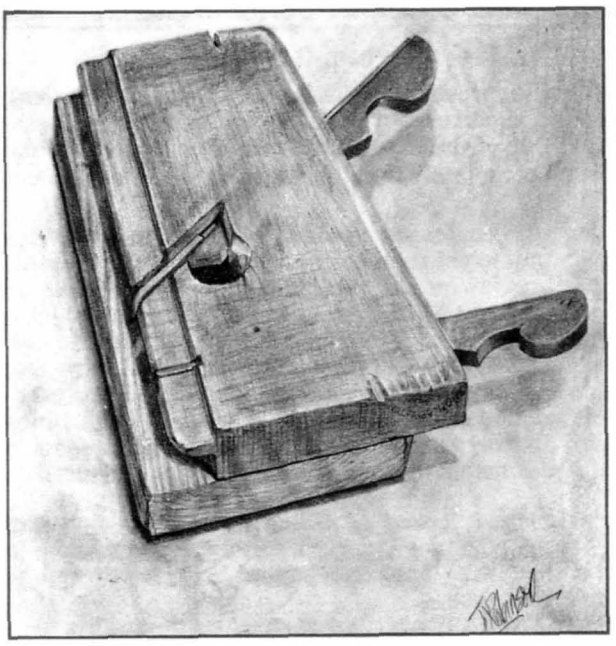
Vol. 4, No. 5 Sept-Oct '80: Cabinetmaker's Workbench, Cobbler's Bench Cofee Table, 19th Cent. Cherry Table, Kitchen Utensils, Book Rack, Nuts & Bolts, Nutcracker, Walnut & Glass Bank, Schoolhouse Desk, Booster Seat.

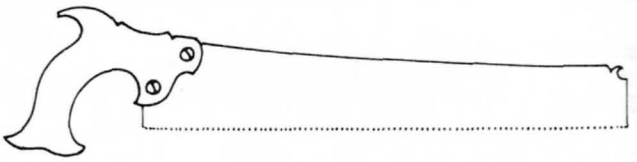
Vol. 4, No. 6 Nov-Dec '80: 17th Cent. Mantle Clock, Toy Truck, Bud Vase, Grain Scoop, Letter Rack, Phone Memo Caddy, Toy Circus Wagons-Animal Puzzles, Library Stool, Quilt Rack, Ratchet Table Lamp, 18th Cent. Trestle Table.

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

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

Please Note Vol. I, No. 1 through Vol. IV, No. 4 are newsprint issues for $1.50 each. From Vol. IV, No. 5 on, they are magazines for $2.25 each. CT residents only please add 7½% sales tax.





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Shoptalk

Spring Again

Even though it heralds the slackening off of a good deal of woodworking activity, I always welcome the arrival of spring in New England. The warm sunshine is a temptation to forsake the workbench in the basement for any excuse that will get me out-of-doors for a while. Often I move a set of sawhorses out in the back yard and do as much work as possible there...or until the gnats get too bothersome.

Dust

Unless the weather is really foul, I try to do all belt-sanding outdoors as I'm always concerned about the effect of a lot of wood dust on the furnace oil-burner...not to mention my lungs. One of these days I'm going to partition the shop off from the furnace and set up a proper dust collecting system. That's priority number 22. It's been nine years since I started building the house and there's still a long list of things to be done because I'm compelled for unknown psychological reasons to keep adding to the list. Perhaps it's a desperate attempt to achieve immortality. As long as the list doesn't run out, neither will I.

Anyway, dust is a real problem and if you're plagued with sinus problems you may, after a long session in the shop, feel as if you're drowning in your own body fluids. I wear a dust respirator and though I hate it, it's an absolute necessity for me particularly when working with mahogany which seems especially irritating.

Wham-O

Since inviting readers to write in about embarassing woodworking mistakes, we've received a number of amusing letters. One of the most common stories involves radial saws cutting completely through the stock when a dado cut was intended.

I've already confessed to one blunder and perhaps shouldn't admit to yet another so soon, but this one is a real beauty and in view of the fact that it happened some 35 years ago at the age of 12, I feel compelled to finally get it off my chest.

I'd seen an ad in an outdoors magazine for a slingshot called a Wham-O®. I'd never done any woodworking before but it seemed a simple enough project so I got a 1 inch pine board and my father's keyhole saw and proceeded to hack out a reasonable facsimile of the slingshot pictured in the ad.

After sanding, it looked good and I was really proud of myself. I attached a nice inner-tube rubber strip to slots in the tops of the fork and put on a leather pocket cut from the tongue of an old shoe.

Loading up with a marble, I drew back on the rubber for a quivering distance of 18 or 20 inches and was about to let fly when the handle broke in half, propelling the upper part of the slingshot at my head with incredible force. In the split-second after it slammed into my forehead the word "Wham-O" flashed in my brain.

I'd cut the piece with the grain horizontal instead of vertical. It was a very tough way to learn about the importance of grain direction and I was very fortunate in not losing an eye. In view of that first experience in woodworking, I've often wondered what made me persist. Probably the same reason why I keep adding to my lists. I love woodworking.

Jim McQuillan

Letters

I wonder if you would be able to send me some information on a problem I'm having.

When I use my router to cut out different shapes along the edges of my projects I never seem to get a clean cut. Either the tool burns the wood or gives a rough finish, especially on the edges. I've tried to move the tool slowly and then it burns. I've also tried to run it through fast and the same thing happens.

I have regular steel cutters and thought they may not be sharp enough so I bought carbide cutters and the same thing happens. Others I've asked about it can't tell me anything.

W.G. Miller, Elk Creek, MO.

Here are a few suggestions that may help:

1. Check your rate of feed, or in other words, how fast you move the router along the workpiece. If you feed too fast, the wood may splinter; if you feed too slow it can glaze or burn the wood. The proper feed is somewhere in between these two extremes, and it takes a little practice and patience to get the "feel" for this.

2. Check your depth of cut. Instead of making the entire cut in one pass, you may have to do it with 2 or 3 lighter cuts.

3. Check the direction of feed. When making outside edge cuts (for example, cutting a bead on a table top edge) the router should travel in a clockwise direction all around the piece. This minimizes the chance of splintering.

So, in short, if you use the proper feed rate, with the right depth of cut, and in the correct direction, you should get a good clean cut. One final thought, you may want to consider picking up a book called The Router Know How Handbook. *It's sold by Sears and has a lot of useful router information. Price is $6.00.*

I'm a rank beginner at making things out of wood. I scrounge around the local industry for scrap white and yellow pine. Anything else is too high priced. I got into making toys for the neighborhood kids, generally out of blocks of two by fours and a few boards. I cut things down on an eight inch table saw. I have a bandsaw and a router that I'm trying to learn how to use, and reading plans is my short hand. Which comes to the gist of the matter. On pages 18 & 19 of the January/February 1981 issue, you have plans for a vanity. This is a fine piece of work and I'd like to give it a try, but without full scale plans I wouldn't know how to begin. I'd appreciate any help you can give me.

J. Pickel, Lancaster, PA.

It would appear that the reason you need full size plans is because you are not sure how to enlarge a grid pattern. Although the process may appear to be a bit complicated, it's really rather simple - and once learned you'll never need a full size pattern again.

For some helpful information on how to enlarge patterns, we suggest you read "The Beginning Woodworker" column in this issue. It covers the subject in detail and should prove very helpful.

Regarding the letter in the March/April issue of The Journal from D. Wickizer, Jr. of Shelbyville, IN. who was seeking a source of music box movements, by far the best source is World of Music Boxes, 412 Main St., Avon, NJ 07717. Their catalog costs $1.00 and lists hundreds of movements.

F.S. Lee, Jr., Merrick, NY.

(cont'd on next page)

Letters (cont'd)

After reading the "Restoring Antiques" column in your January/February 1981 issue I thought it might be of interest to you and possibly your readers that common white vinegar is an excellent solvent for most glues, even some of the modern glues (except epoxy).

I use it to remove the spline from pressed cane seats. The use of a hypodermic needle, if available, is a great help in tight locations. The vinegar will usually work in about 10 minutes and will not discolor the wood or most finishes. I hope this information will be of help to you in the future.

P. Dalton, Hyganum, CT.

John Olson replies:

I haven't had occasion to try this method. I rather expect, though, that the real solvent is good old water, which makes up 95 to 98% of the white vinegar. Another thought is that since, when properly done, it isn't necessary to use glue on the splines when recaning, perhaps some of the chairs Mr. Dalton worked on didn't have any glue in the rabbet holding the spline. In that case the vinegar would work as a lubricant as well as a solvent.

I have a lacquer finish table top that has several chips. What is your suggested method of repair?

W. Mentele, Wayne, PA.

John Olson replies:

If the chips are deep they can be repaired by using the methods outlined in a "Restoring Antiques" column of mine that was published in the March/April 1979 issue. If the chips are only as deep as the finish and the underlaying wood hasn't been touched, try amalgamating the old finish with lacquer thinner and a very fine brush which, when properly used, will not leave any marks. A day or two later a rubdown with polishing compound will blend the old and the new work.

Editor's Note: In his "Shoptalk" column in the January/February 81 issue, Jim McQuillan told an amusing story about the mirror image "ogre" and the problems it's caused him on occasion. He also invited readers to send in similar stories, so that we all might enjoy a smile, and perhaps learn a little about woodworking at the same time. Lt. Steve Willis of Fort Lee, VA was kind enough to send along this story, and we thank him for it.

Perhaps my encounters with "ogres" have never really reached the "monumental" stage (though, of course, I'm only 27 and surely I can't evade them forever), but a recent experience of mine could have been disastrous at another stage in the project. This time I was cutting the sides and back for 9 drawers to go in a chest (total 27 pieces). I had already run out of wood in the proper size and had to scrounge 2 drawer backs from a different kind of wood. Now with all the drawer parts on the table, I carefully set up the radial saw for dadoes on the drawer sides to hold the backs. With the first piece up against the stop I proceeded to saw a very neat and thorough...cross-cut!!?? Oops! I had forgotten to raise the blades!! That sinking feeling you mentioned was not mild, I assure you!

Well, since I was out of wood and had already cut the dovetails I was not to be denied. I simply cut the matching side the same length and cut the dadoes - after raising the blade this time, as previously planned. Result: one short drawer. The only ones who know are those who saw the finished drawers lined up on the bench during finishing and asked the obvious question. There's no fooling the kibitzers! I was lucky though - had this lapse occurred when I cut the dadoes in the dresser sides (5/4 clear white pine) I might

(cont'd on next page)

Letters (cont'd)

still be crying. A short dresser is too hard to hide! Maybe this story will save a fellow woodworker's project from ruin.

We want to produce some fireplace bellows in our workshop but can't locate a source for the brass nozzles. Can you help?

M. & S. Leap, Livermore, CA.

The only source for fireplace bellows that we know of is Theta Industrial Products, Inc., 1926-B University Ave., St. Paul, MN 55104. It's turned from solid brass stock...and the current price is $6.00 each less shipping. Send 50¢ for their latest catalog.

I am having a problem with felt I use to put on the bottom of different projects. I have used several different kinds of glue and all soak through the felt, and the spots become hard. Do you know what kind of glue I can use?

J. Lutz, Cuyahoga Falls, OH.

We'd suggest you try pressure sensitive felt. It's made with a peel-off ready to stick on backing so no glue is needed. Constantine, 2050 Eastchester Rd., Bronx, NY 10461 sells it by the yard in 27" widths. Current price is $4.50 per yard, plus shipping. Color is green.

The Woodworker's Store, 21801 Industrial Blvd., Rogers, MN 55374 sells the self-sticking felt dots and felt tape. The dots are available in ¼, ⅜, ½, ⅝ and ¾" widths. Price for the ½" wide felt is 26¢ per foot. Both dots and tape are 3/64" thick and brown in color.

Workshop Income

by Paul Levine

There are a variety of factors that determine whether or not a workshop is profitable. Of all of them, perhaps the most important is the ability to develop an effective way to distribute your product(s). In previous issues we've discussed establishing a relationship with gift, houseware, and card shops. I find this route about the easiest. If you don't have a regular output, in the commercial sense, this way may also be good for you.

Of course, there are other ways to distribute your woodworking products...and some of them can be especially lucrative. Direct retail sales, which avoid a middleman, provide the greatest profit margins. You can sell directly to the public at craft fairs, flea markets, and even right from your workshop. Flea markets and craft fairs are usually held on weekends so that the part-time woodworker can join in on the fun. Even those fairs that run over a period of several days do not necessarily exclude those of us who are supplementing their regular income. With a little planning, you may be able to program these into your summer vacation.

The Northeast Crafts Fair, held every year at Rhinebeck, New York, is the largest of these events. Sales volume is measured in the millions of dollars, and crafts people are exposed to an audience with a wide range of interests. There are specific days set aside for wholesale and media coverage.

To enter this fair you must submit color slides of your work in advance. A jury reviews the submissions and selects those who will be invited (for a space rental fee only). As you can imagine, the competition for space is keen, and those who attend find the level of workmanship very high. This is one for the serious craftsman only.

For a list of other fairs you can check the book *Craftworker's Market* published by Writer's Digest Books, available through your local bookstore, and the *Crafts Report*, a newsletter published by the Crafts Report Publishing Co., Inc., 700 Orange St., Wilmington, DE 19801.

The sales potential for some of the large fairs can stagger the imagination, and a great deal of planning and preparation is required. The fair at Rhinebeck, for example, grossed $4,567,725.00 in retail sales only. The average sales volume per exhibitor was $16,842.00!

Although these figures are inviting to some, others may shy away because of the lack of time to devote to this kind of production. There are many smaller fairs with sales expectations that may better suit your capabilities.

Perhaps this all sounds rosy, but there are pitfalls to selling at fairs and you must be careful how you go about it. Just as there are fairs with great attendance records, there are also fairs with miserable records. You may spend a lot of money for booth rental, gas, motel and food, only to find that the event is rained out. You may build up an inventory of goods for a particular fair, only to find that the stuff doesn't sell because it's not competitive with other merchandise. Then all you end up with is your entire inventory and a long ride home. On the other hand, it is just as frustrating to find out half way through the fair that you don't have enough goods. Then you end up watching as sure sales walk off.

To properly plan for a fair you must become familiar with the event before you attend. Some of them offer literature describing the fair, entry criteria, costs, and other more mundane items such as where to find something to eat.

I think that it's a good idea to attend one of the fairs in which you wish to exhibit before actually entering. This way you can see the general price level, level of competence, and variety of offerings...before you head downstairs to the shop to whack out ten widgets. As a parting word, be careful when entering juried shows that the level of your photography measures up to the level of your woodworking. Some bad photos can sink an otherwise good venture.

Restoring Antiques

by John Olson

Tiny sap carrying conduits, called vessels, are common to the wood of all hardwood trees. These miniature pipelines will vary in size depending on the wood species. Some species have vessels large enough to be seen with the naked eye; in other species they are so small a magnifying glass is needed to see them. Woodcrafters usually use the term "pore" to describe the point where a vessel intersects the surface of a piece of hardwood. Viewing the end grain will show these pores to look like minute holes, while on the face or edge surfaces they appear as tiny scrapes or gouges.

Maple, birch, and beech are a few of the species that have pores too small to be seen with the naked eye. Oak, walnut, ash, and mahogany are among those that have relatively large pores and can be seen quite readily without magnification. Coarse-grained, open-grained and coarse-textured are other terms sometimes used to describe species with large pores.

Wood pores are of particular interest to anyone who finishes hardwoods. If the species is one that has relatively large pores, these tiny surface irregularities will make it impossible to get a finish with mirror-like smoothness... that is unless special measures are taken. This means the pores must first be completely filled and made level with the surrounding surface.

Build-Up Method

There are two generally accepted methods for filling wood pores: (1) either applying numerous finish coats to build up a level surface, or (2) using a commercial filler. The build-up method is the one that was used by the earlier makers of fine furniture. These shops enjoyed a plentiful supply of apprentices and their job was to sand and rub down each succeeding coat of finish. The trick with this method is to apply a coat of finish, let it become dry and hard and then remove most of it by rubbing with very fine sandpaper. I use 220 grit paper in the beginning and cut down the last two or three coats with 600 grit. Using a light and careful touch I remove almost all, but not quite all, of the finish, leaving a full layer in the pores. Use caution here when sanding, especially if the wood has been previously stained. Should the sandpaper remove stained wood, you'll be faced with the difficult task of repairing the damaged area.

This process of applying a coat of finish and then removing most of it is continued until a smooth and level surface is attained. The number of coats required will vary with the finish used. Lacquer may require as many as 20 or more coats while a satisfactory surface can usually be built-up with 6 to 10 coats of a good acrylic or polyurethane varnish. The final coat is carefully rubbed down and then brought to the desired sheen by using a rubbing compound followed by polishing. While many good finishes level and dry to a high gloss, none of them equal the beauty of a polished surface as found on really good furniture.

Commercial Fillers

If you want a quicker and easier method of filling wood pores, consider using prepared commercial fillers. These compounds are generally marketed as "paste wood filler" and consist of a mixture of very finely ground minerals and a liquid carrier. The most common mixture is made up of silica powder and boiled linseed oil. The silica is nothing more than ground quartz sand with varying amounts of feldspars. When finely ground, these materials form sharp-edged irregular particles that pack into the wood pores and lock into each other and the wood fibers.

The success of this operation is dependent on the proper preparation and application of the paste wood filler. Manufacturer's instructions on the container usually require that the filler be thinned with turpentine or paint thinner (mineral spirits also work well) to the consistency of thick cream.

How thick is thick cream? I find that most novice finishers err on the side of making it too thick whereas too thin is much preferable. To properly enter the wood pores the viscosity of the thinned filler must be such that it readily runs and spreads on the wood surface to be filled. This viscosity is attained by using 50% to 70% thinner by volume. The manufacturer's instructions also state that the thinned filler should be applied with a brush across the grain and allowed to dry slightly to a dull sheen or flat surface. The excess filler is then towed off by gently rubbing across the grain with burlap of similar coarse cloth. I have found that this method can be improved upon by applying the thinned filler with a very short and stiff bristled brush. One of the best is a stencil brush an inch or an inch and a half in diameter. These brushes can be found in most paint stores. I scrub the filler across the grain, working to pack it well into the pores. One application is generally sufficient. The filler is then allowed to dry to a dull flat state, then towed off across the grain.

The surface should be allowed to dry overnight after which it can be very lightly sanded with very fine sandpaper. Again, take care not to cut into a stained surface. Carefully dust with a soft cloth moistened with turpentine or paint thinner. Before applying any finish, wipe with a tack rag to remove the last traces of dust. For a beautiful and professional looking surface, apply the final finish as described earlier.

The Beginning Woodworker

Enlarging & Transferring Patterns

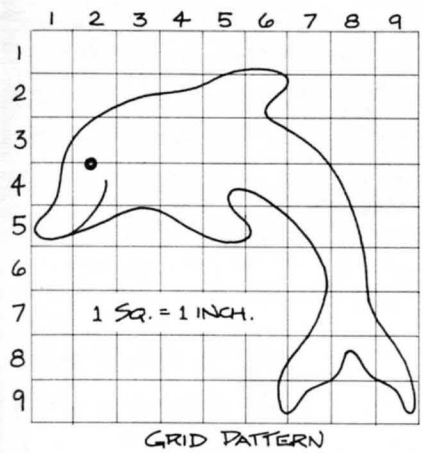
Frequently in reproducing a piece from published plans, the woodworker finds it necessary to reproduce a complicated shape. This may be an elaborately scrolled apron, valence or perhaps a toy shaped like an animal. Usually a pattern is provided in greatly reduced form and superimposed on a grid of squares.

Many beginning woodworkers have only a vague idea of how to go about enlarging the design. Most woodworking books cover tools and techniques but unfortunately, fail to deal with this basic information. There seems to be a tendency on the part of woodworking writers to assume that everybody just naturally knows how to enlarge patterns...but we've found that that's not necessarily true. Many neophyte woodworkers have had no previous exposure to arts and crafts and therefore have a tendency to avoid any project that involves drawing.

Enlarging published drawings to full size is a fairly simple, straightforward process and one that requires no artistic ability. It just takes more time than working from a full size pattern. The first step is to examine the pattern given in the plans. You'll see that it's drawn on a grid of small squares and somewhere on the drawing there will be a notation to the effect that each square equals ½, 1 or perhaps 2 inches.

In order to enlarge the squares to full size you will need a few simple drafting tools such as a T-square, drawing board (or any flat surface with a square edge), a rule or yardstick and a piece of paper large enough to take the full size drawing, or part of the drawing if the design is symmetrical.

If you plan to do any amount of cabinetwork, a draftsman's T-square is a good investment. A smooth piece of ¾" plywood can be used for a board if the corners are perfectly square, or a plain hollow-core portable board can be purchased quite reasonably at art supply stores.



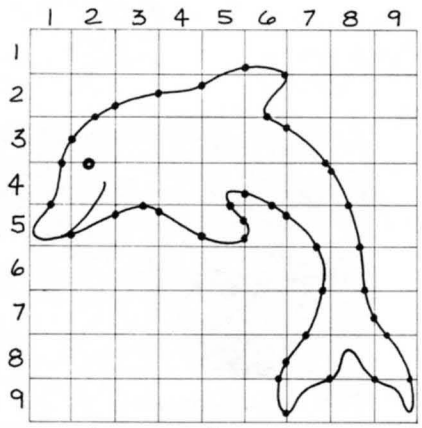
GRID PATTERN
AS GIVEN ON PLAN
FIG 1.

Start by numbering the small squares on the original pattern; first horizontally starting from one corner and then vertically as shown in Fig. 1. These numbers will help you keep track of each square when transferring the design to a larger grid.

Using a strip of masking tape at each corner fasten a sheet of brown or wrapping paper to the drawing board and using the T-square, draw a horizontal line across the paper close to the top edge. Next, move the T-square head to the top of the board (or use a drafting triangle) to draw a vertical line near to the left edge of the paper and intersecting the first line at a right angle.

Use a ruler to lay off as many squares of the size specified, as are on the original grid. If the unit is 1 inch, mark off a new square every inch along both lines. Draw a horizontal line across the sheet at every mark on the vertical line and repeat the process with vertical lines marked off from the top horizontal line.

Number the squares to correspond with the numbers you marked on the original grid. To enlarge the design note where the original drawing intersects each square and place a dot at the corresponding intersection on your enlarged grid (Fig. 2).



ENLARGED GRID WITH DESIGN
TRANSFERED BY DOT METHOD
FIG 2.

Continue to copy the entire drawing square by square, using the numbered squares as a guide to avoid confusion. After you have located all the intersecting points with dots, all you have to do is connect the dots with a free-hand line. The only difficulty you may have is in keeping the proportion of the detail in each square the same as in the original drawing. Your eye will quickly tell you if you're failing to do this. A few adjustments here and there and your full size drawing should duplicate the original close enough for all practical purposes.

Naturally, this method can also be used to reduce a full size pattern by simply reversing the procedure and making a new grid with smaller squares than the original.

After you have enlarged the design, the next step is transferring the drawing to the wood from which the design will be cut. There are a number of ways this can be done and the size of the design will usually determine the method of transfer.

Small intricate designs, such as are found on pierced fretwork, can be transferrred with ordinary carbon paper. It's best to tape the pattern in place on the stock, otherwise it's bound to slip a bit and spoil your transfer.

Using carbon paper and tracing around the design with a pencil will leave dark lines on the stock. This is fine with maple, pine and other light colored woods but you may have difficulty seeing the transfer on walnut and other dark woods. In such situations you can use dressmaker's carbon as a transfer medium. These are obtainable at most department stores and can be had in white, green, red and possibly other colors.

An alternative method is to rub white chalk on the back of the pattern, tape it down and trace around the design with a pencil. The resulting outline will show clearly on dark wood. The chalk method can also be used for transferring designs that are just too large for one or two sheets of carbon paper.

Another way of transferring larger patterns is to make the drawing on cardboard, plywood or hardboard. The design is then carefully cut out with scissors or jig-saw and the resulting template is laid directly on the stock, a pencil being used to trace around the edge. This method is preferred if the design is to be duplicated many times as the template can be filed away for future use.

Pouncing is yet another method of transfer which is done by taping the drawing on the stock and using a sharp awl or large pin to prick holes along the outline of the pattern. Space the holes close together and before removing the pattern, rub along the

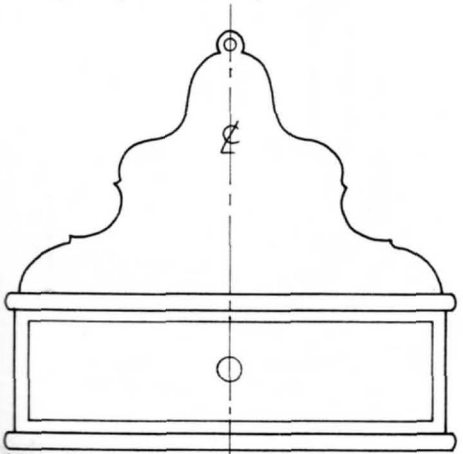
holes with chalk. When the pattern is removed, the resulting dots can be easily seen and connected with a pencil line.

Obviously, this method would be very tedious and time-consuming to use on very large patterns. Wooden boat builders, who are quite ingenious when it comes to solving woodworking problems, make use of a dressmaker's pattern wheel (Fig. 3) to achieve the same effect as pouncing but with much less time and effort.

DRESSMAKER'S PATTERN WHEEL
FIG 3.

The wheel, which has small sharp points, is snugly run along the outline of the pattern. The wheel punches small closely spaced holes into the stock. When a design is large enough to require using a pattern wheel but also has fine detail and tight curves, a combination of wheel and pouncing awl is used.

Much colonial and provincial furniture is decorated with scrollwork and quite often these scrolls are exactly alike or symmetrical on both sides of a centerline (Fig. 4). In cases such as this, you will generally find that the grid pattern for only one half of the design is given in the plans.



DESIGN IS THE SAME ON BOTH SIDES OF CENTER LINE.
FIG. 4.

If the design is fairly small, enlarge one half on a large sheet of heavy paper, then fold the paper in half at the centerline and cut around the design with scissors. When opened up, both halves of the design will be exactly alike (Fig. 5).

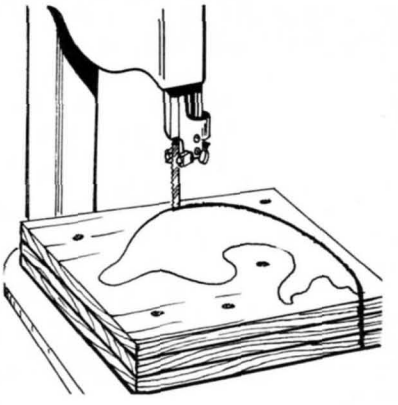
With larger designs, enlarge one half of the drawing on thin plywood or

(Continued on Next Page)

ENLARGE SYMMETRICAL DESIGN ON ONE HALF OF PAPER FOLDED ALONG CENTER LINE. CUT AROUND DESIGN + OPEN.
FIG. 5.

masonite and after jig-sawing the outline, place the template on the stock, trace around it to the centerline; then flop the template over and use it to trace the remaining half of the design.

When a number of irregularly shaped but identical parts must be cut, it's best to use a bandsaw and stack-saw the parts with the pattern on top (Fig. 6). This insures uniformity of all pieces. Naturally, the number of pieces that can be sawed simultaneously depends on the thickness of the wood and the saw's capacity, but in general, a stack no thicker than three inches is best. When cutting thick stacks, it's important to have the table perfectly square with the blade as a slight tilt will make the bottom piece a different size than the top piece.



BANDSAWING A STACK WITH PATTERN ON TOP
FIG 6.

The stack can be bound together with strips of cellophane tape which will not obscure the outline of the pattern. An alternate method is to nail the stack together, driving the nails into the waste portions of the design.

Of the many processes involved in woodworking, these preliminary steps are quite important and deserve the same care and attention that you will later give to the joinery and finishing. Actually, the process of enlarging, transferring and cutting patterns can be a most interesting part of the woodworking process.

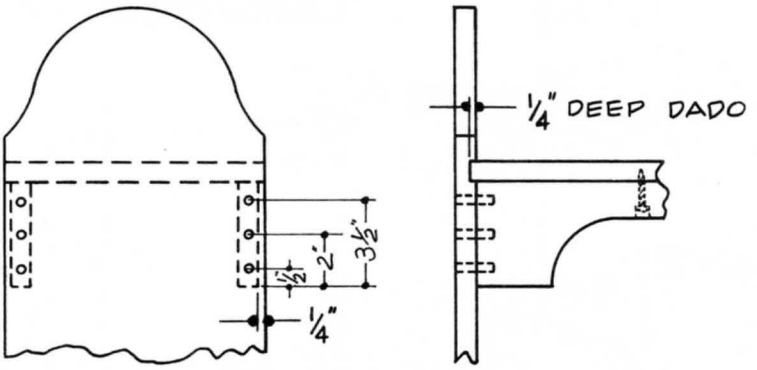
18th Cent. Sleigh Seat

Although not an exact reproduction, the overall design of this piece is based on a colonial original. Ours is used to display house plants in front of a sunny window, but it will also make a nice bench for a hall or den.

If you can't get 10" wide boards it will be necessary to edge-join enough stock for the two sides and the seat. Boards cut 6 feet long will provide enough length for all three parts. For maximum glue strength, the gluing surfaces must be smooth and clean. If the edges look a bit rough or dirty, use the jointer or hand plane to clean them up. Keep knots away from the leg portion of the sides. A knot will weaken the strength of a leg.

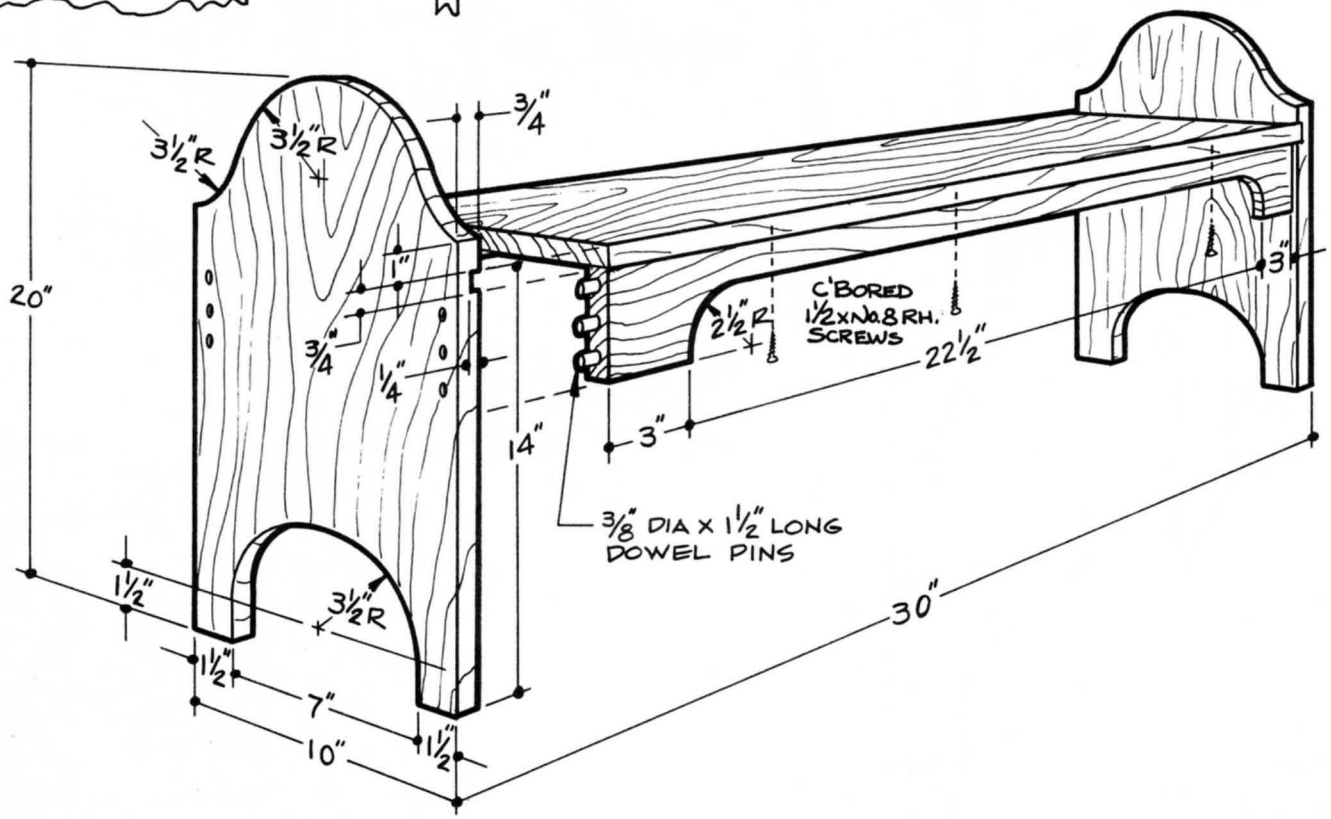
After all parts have been cut to size and shape, give each one a thorough sanding. Assemble with glue and dowel pins as shown, using countersunk 1½ x #8 wood screws and glue to secure the aprons to the top.

Ours is finished with a coat of Minwax Special Walnut wood finish followed by two coats of Minwax Antique Oil finish.

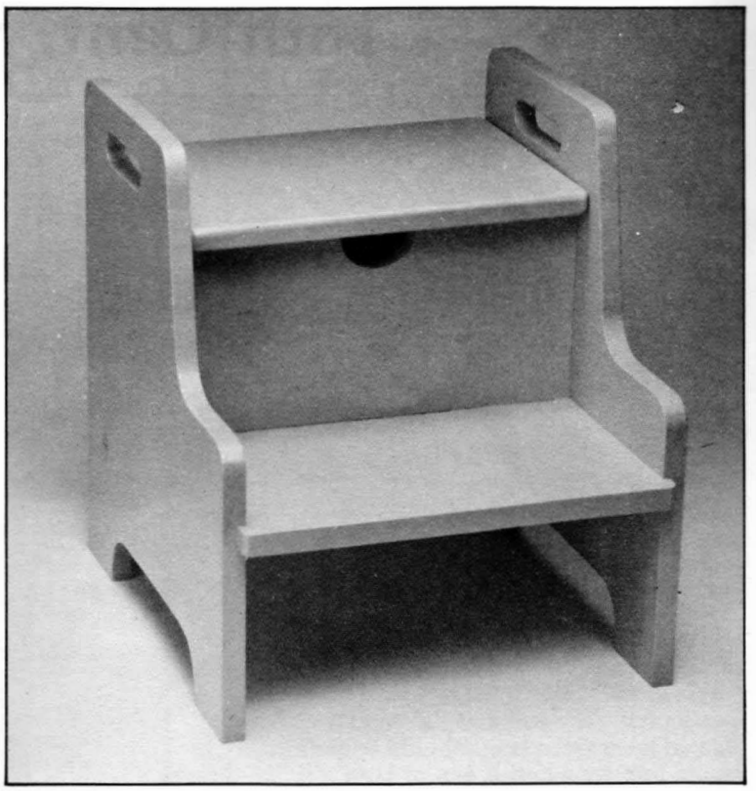


SLEIGH SEAT - BILL OF MATERIALS

PART	SIZE	NO. REQ'D
SIDE	¾" x 10" x 20"	2
APRON	¾" x 4" x 28½"	2
SEAT	¾" x 10" x 29"	1



Child's Step Stool

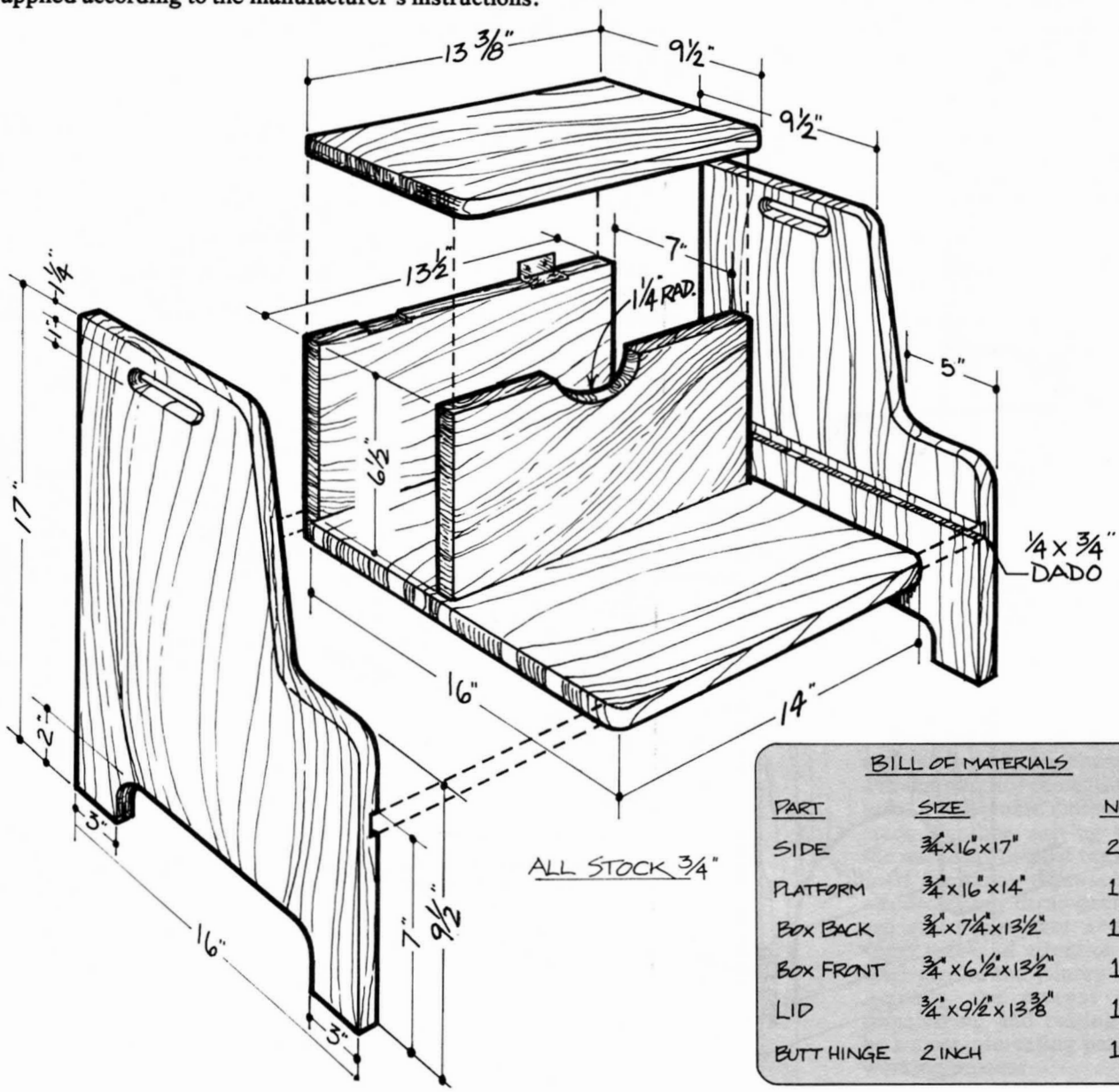


Most everything in a house is sized for grown-ups, and kids soon learn that being little has some distinct disadvantages. However, here's a project that will help them out all during their growing up years. It's especially useful in the bathroom, allowing little ones to get up to the sink for brushing teeth and washing up. Sturdily constructed of ¾" pine, it features a storage area for collecting bathroom toys and other odds and ends.

Begin by edge-gluing adequate stock to take care of the two sides and the platform. Boards cut 50" long will provide enough length for all three parts. Cut the ¼" x ¾" side dado slightly less than the thickness of the mating platform. Then, when the platform is sanded, the joint should be near perfect. By the way, make sure the platform grain direction runs as shown in the drawing. Little strength will result if it runs the other way.

After cutting all remaining parts to size, give each of them a thorough sanding. Round off all corners as shown. Assemble with glue and countersunk finishing nails. If you have them, two or three pipe clamps will also be helpful here. Use two small blocks to fill in the point where the dado runs out the back.

After the glue has dried, fill all nail holes and give the entire project a final sanding. Cut and fit the pair of 2" butt hinges as shown. Ours was finished with 2 coats of yellow paint, applied according to the manufacturer's instructions.



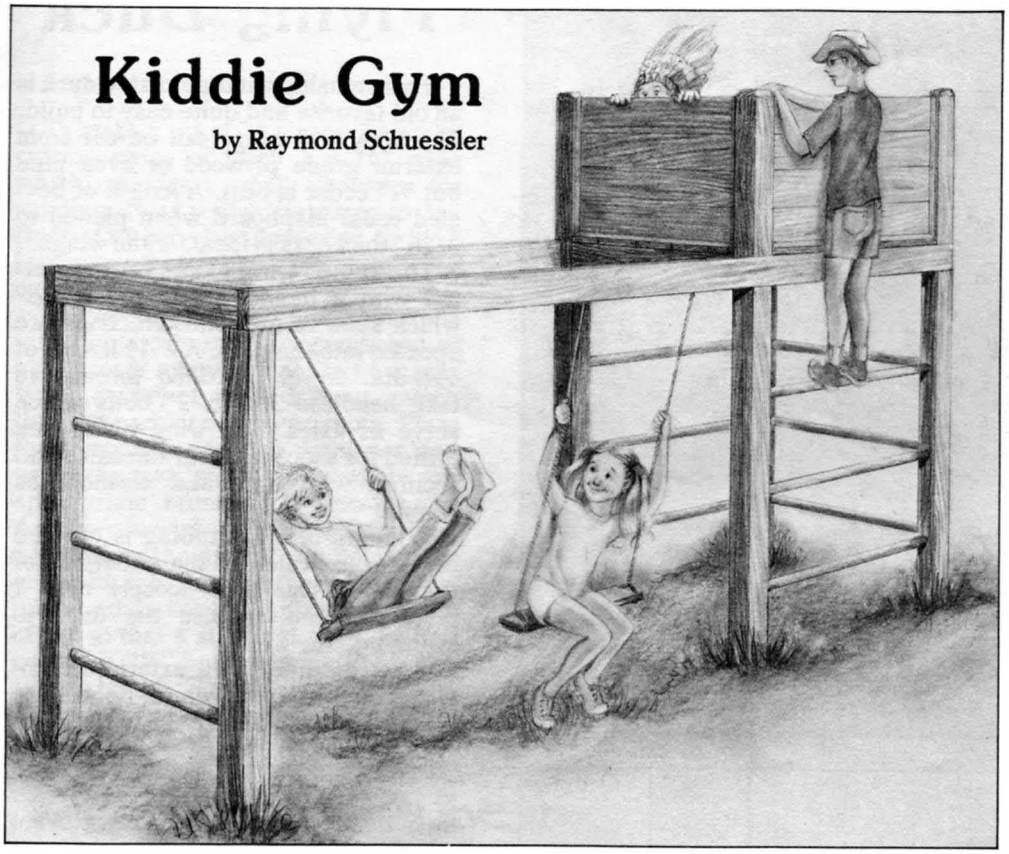
ALL STOCK ¾"

BILL OF MATERIALS

PART	SIZE	NO. REQ'D
SIDE	¾"x16"x17"	2
PLATFORM	¾"x16"x14"	1
BOX BACK	¾"x7¼"x13½"	1
BOX FRONT	¾"x6½"x13½"	1
LID	¾"x9½"x13⅜"	1
BUTT HINGE	2 INCH	1 PAIR

Kiddie Gym

by Raymond Schuessler

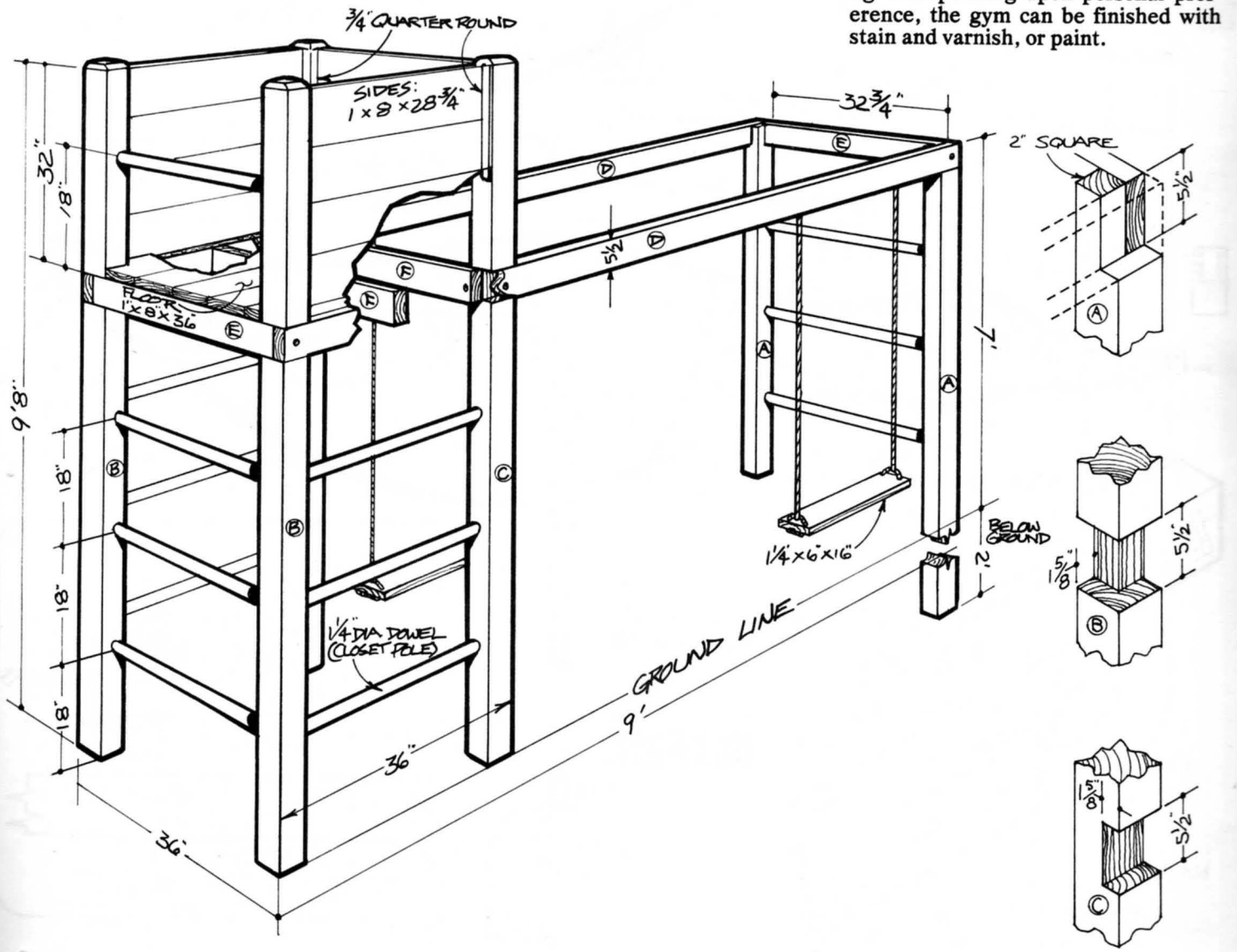


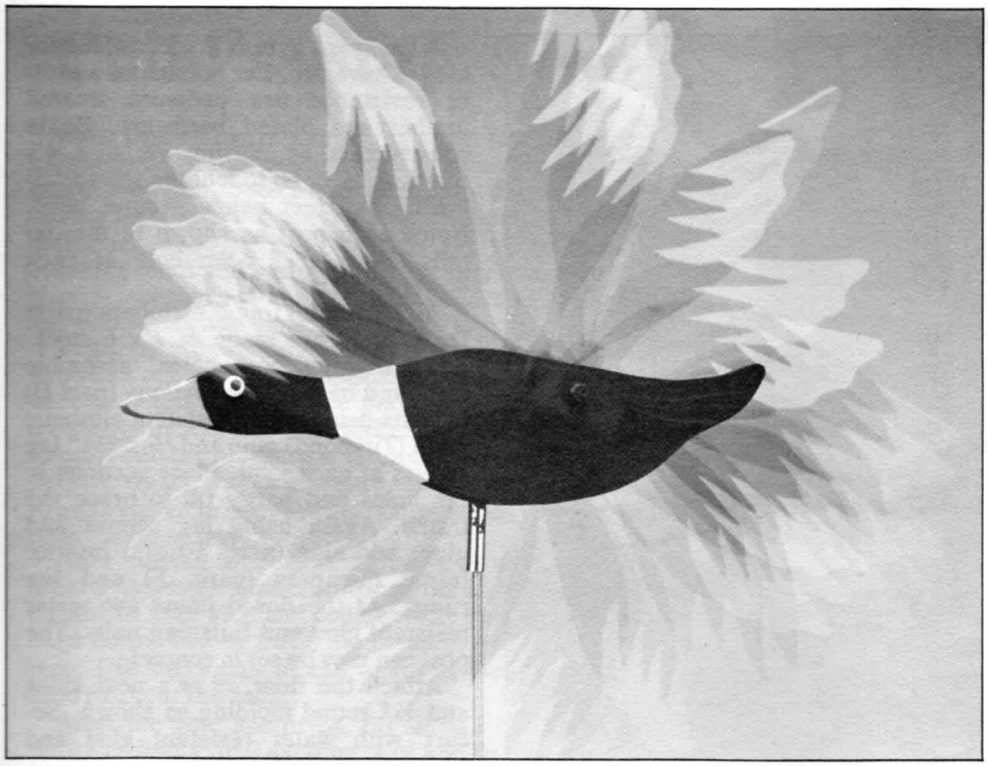
A backyard gym is a great place for kids to have fun. For maximum weather resistance use pressure treated lumber and plated hardware. Begin construction by cutting six 4 x 4's (parts A, B, & C) to lengths shown, allowing two feet below ground level. Notch each post as shown in the details. Bore 1¼" deep hole at each dowel location.

All horizontal frame members (parts D, E, & F) are made of 2 x 6 stock. After digging post holes, assemble front and back frame sections (part D) to posts using water resistant aliphatic resin (Titebond) glue and ½ x 3¼" lag screws at each joint. Place sections in the holes and partly fill to brace the frame. Again using lag screws and glue, add side (parts E) and interior frame members (parts F) and the rungs. At the dowel joints use water resistant glue and finishing nails. The post can now be set in concrete.

Attach the floor, crow's nest sides and ¾" round molding as shown. Secure with water resistant glue and countersunk finishing nails.

Nasty splinters are no fun, so be sure to give all edges a good rounding and thoroughly sand all surfaces. Set all nails and make sure lag screws are tight. Depending upon personal preference, the gym can be finished with stain and varnish, or paint.





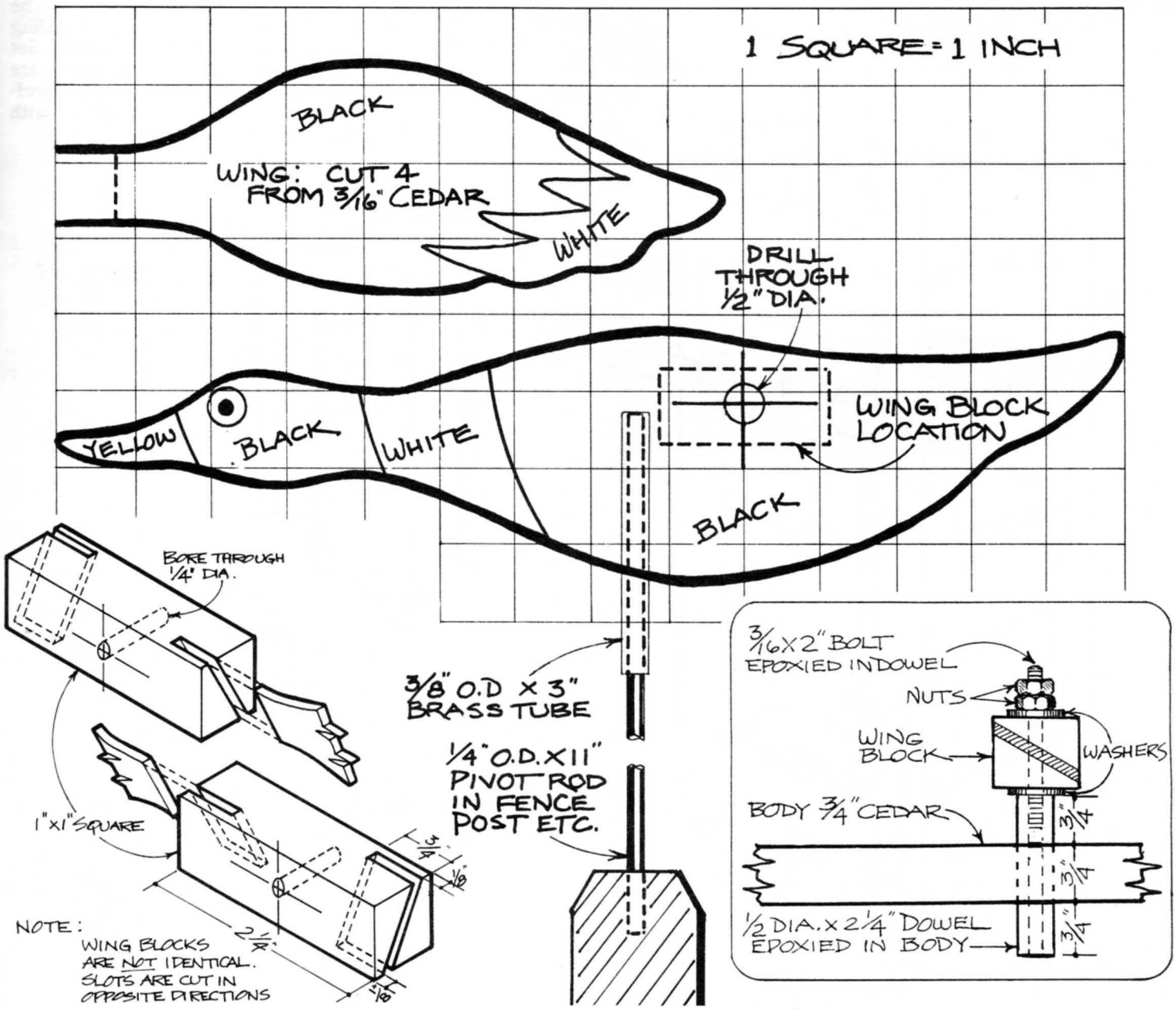
Flying Duck

This amusing wind-animated duck is an old favorite and quite easy to build. The body and wings can be cut from exterior grade plywood or even pine but ¾″ cedar is best. A length of beveled cedar clapboard when planed to 3/16″ thickness is ideal for the wings.

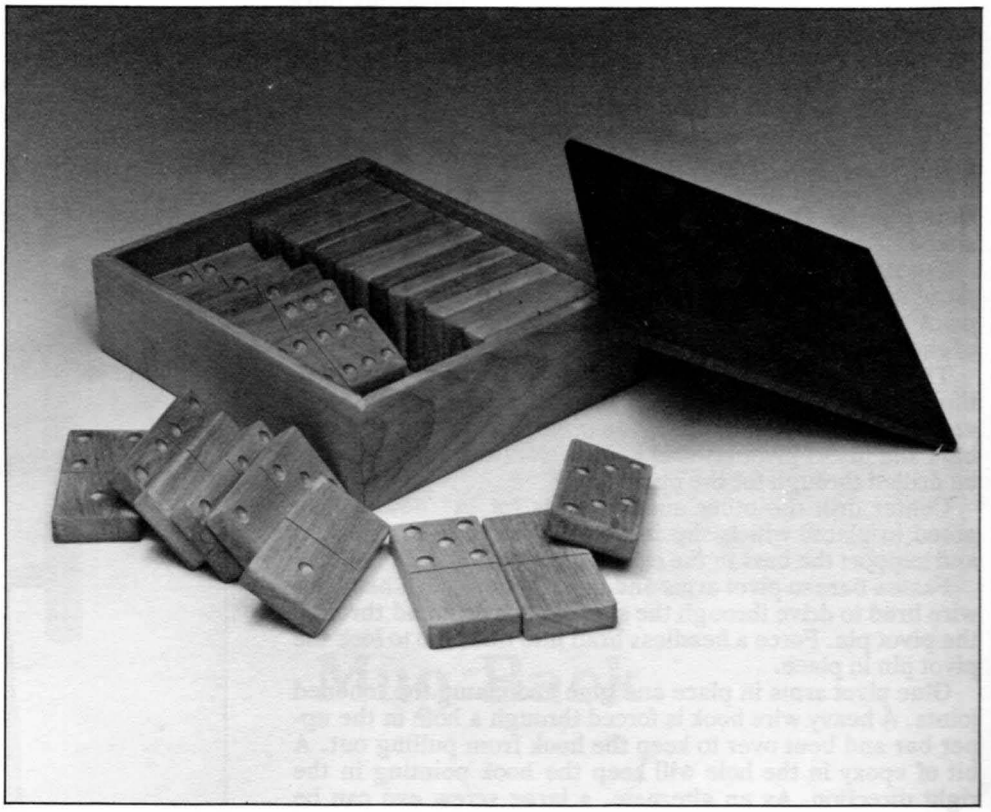
The angled wing blocks can be slotted with a handsaw, and the wings which slant in opposite directions are epoxied into the slots. A 2¼″ length of ½″ dia. dowel is drilled through to take headless 3/16 x 2″ bolts which serve as axles. The wing blocks are drilled for a loose fit over the axles and secured with nuts and washers as shown.

A length of brass tubing is epoxied into a hole drilled in the underside of the body. This slips loosely over a pivot rod and enables the duck to swing into the wind.

Paint the duck with exterior enamels. The eyes are white upholstery tacks with a dab of black enamel.



The Gift Shop



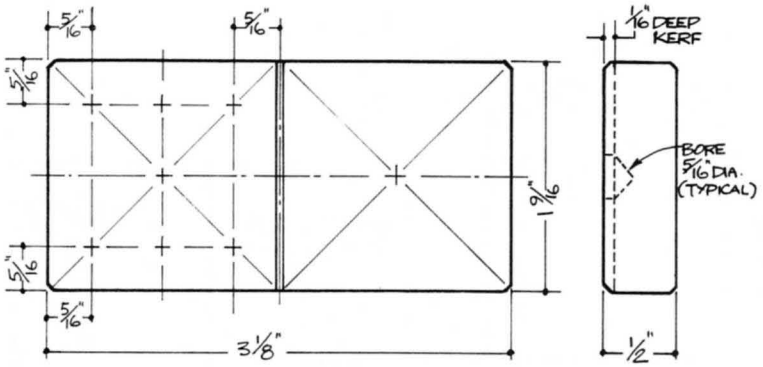
Dominoes

by Paul Levine

To make a set of 28 pieces, begin by cutting strips of birch 1 9/16″ wide which includes a small allowance for sanding. Next resaw the strips to ½″ thick. Cut off your dominoes to 3⅛″ long using a stop block to control your cut.

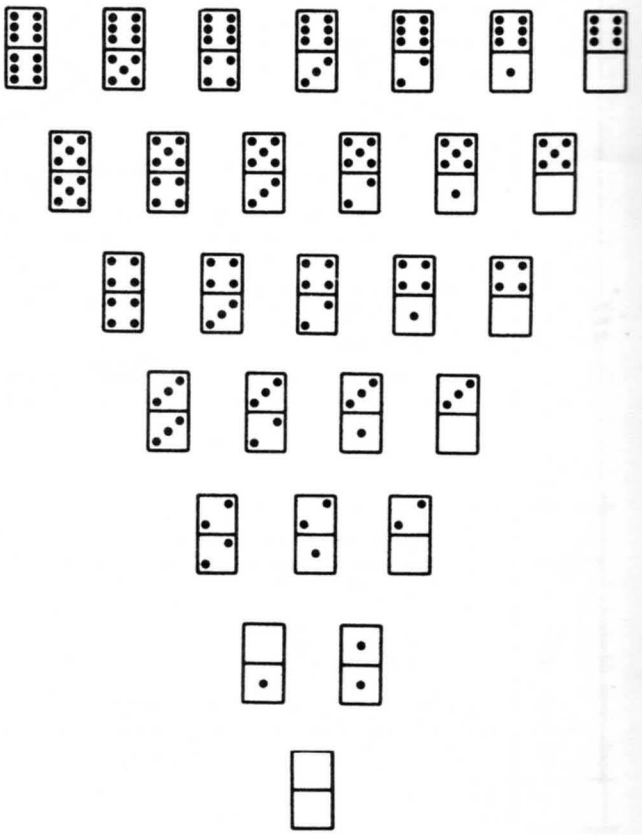
To put pips on the faces, make a template as shown from cardboard or use brass if many sets are to be made. Using an awl or small drill bit, punch through each one of these spots. Place the template over your dominoes and using the awl, mark the wood for the appropriate number of pips for the domino you wish to make. Then with a 5/16″ bit in the drill press, slowly lower the bit into the wood letting the awl marks guide the bit. Adjust the depth of cut so that a standard twist drill bit cutting a "V" bottom hole will leave a 1/16″ shoulder.

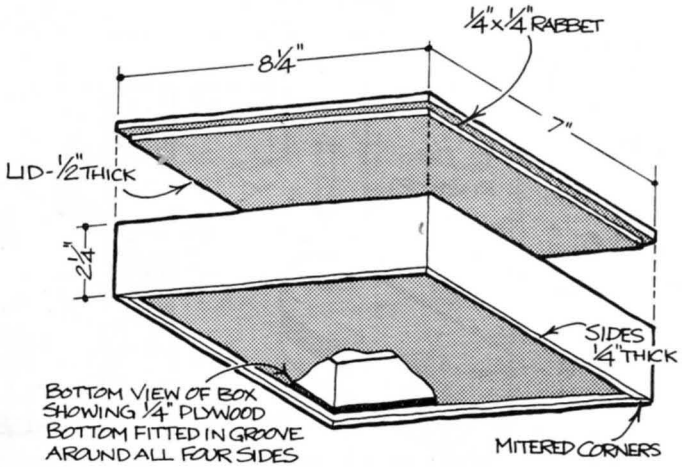
For the face divider cut a 1/16″ deep kerf with a back saw and miter box. Sand the dominoes so that all the edges are rounded then oil, wax, or leave unfinished. More information on the dominoes, including sizes, faces, rules and strategy can be found in the book, *Dominoes* by Dominic C. Armanino, published by the Cornerstone Library, New York.



TEMPLATE FOR DRILLING PIPS

THE TWENTY-EIGHT PIECES





Trouser Hanger

A few hours in the shop is all it takes to make this nifty multiple trouser hanger...and we guarantee that you'll end up making more than one. It makes a great gift and one that should sell very well.

For durability use a hardwood such as maple or cherry. The pattern for the curved upper bar is enlarged on tracing paper and transferred to a length of ¾ x 5½ x 16" stock. Run the ends of the board over a ¼" dado cutter to cut the slots for the upright tenons, then bandsaw the piece to shape.

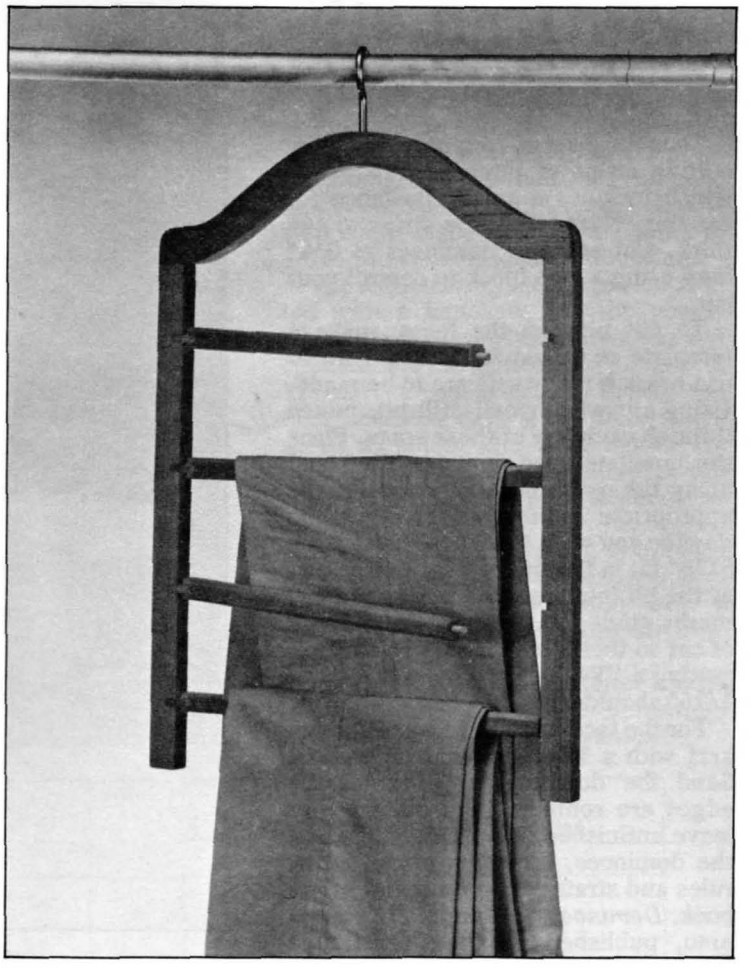
Cut uprights from ¾ x 1¼" stock and cut dadoes in one piece for the ¼" pivot arms as shown in the detail. Cut four pivot arms to fit snugly in the dadoes and round off one end of each.

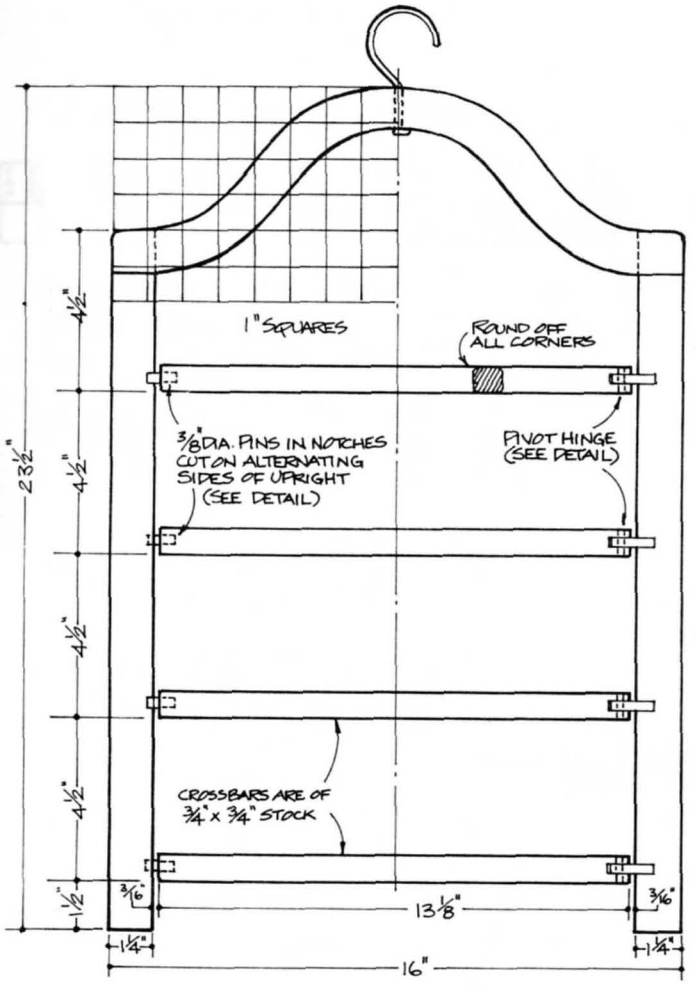
The four trouser bars are ¾" square, notched to fit over the pivot arms. These notches should be quite snug to prevent drooping when the bars are swung out. Round ends of bars and insert pivot arms in the bar slots so both pieces can be drilled through for the pivot pins.

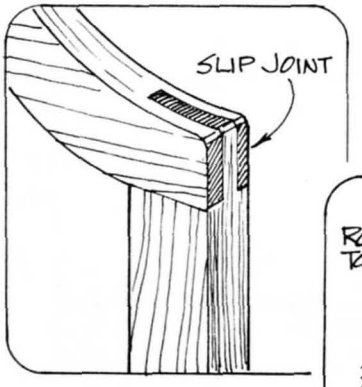
Center drill the other ends of arms for ⅜" dowel pins, glued in place, which slip into routed slots in the upright and support the bars in the closed position.

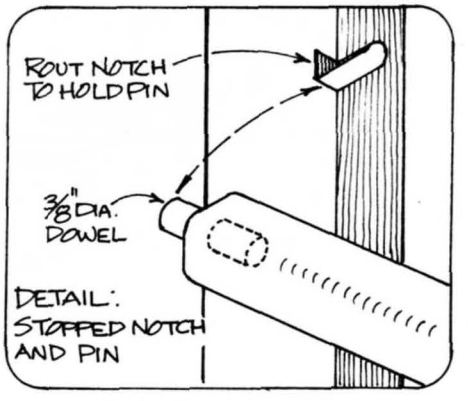
Fasten bars to pivot arms and insert pins. Use a headless wire brad to drive through the side of each arm and through the pivot pin. Force a headless brad into this hole to lock the pivot pin in place.

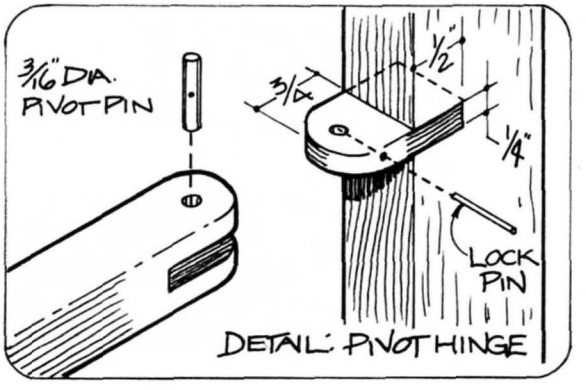
Glue pivot arms in place and glue and clamp the tenoned joints. A heavy wire hook is forced through a hole in the upper bar and bent over to keep the hook from pulling out. A bit of epoxy in the hole will keep the hook pointing in the right direction. As an alternate, a large screw eye can be used.











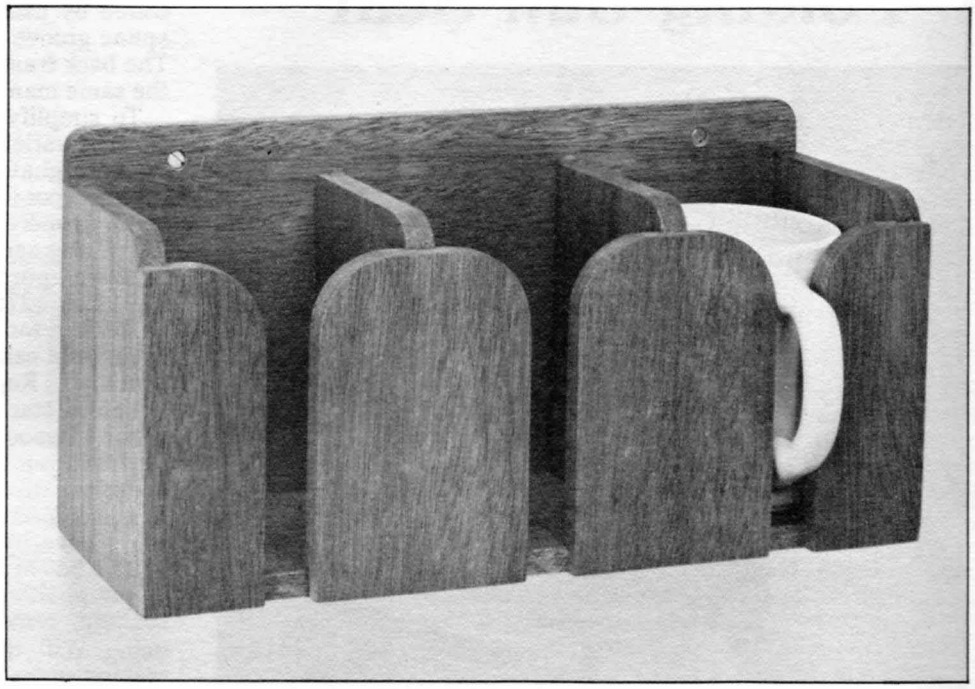
Designed to hold three coffee mugs, this good-looking rack is a useful accessory for either a boat or a recreational vehicle. Make it of ⅜" mahogany or teak to match a boat interior or use ⅜" plywood enameled to suit the decor of a camper van.

Our rack was sized for an average set of mugs having a major diameter of 3 inches, but if you prefer larger mugs, the size of the compartments and the width of the handle slots can be altered to suit.

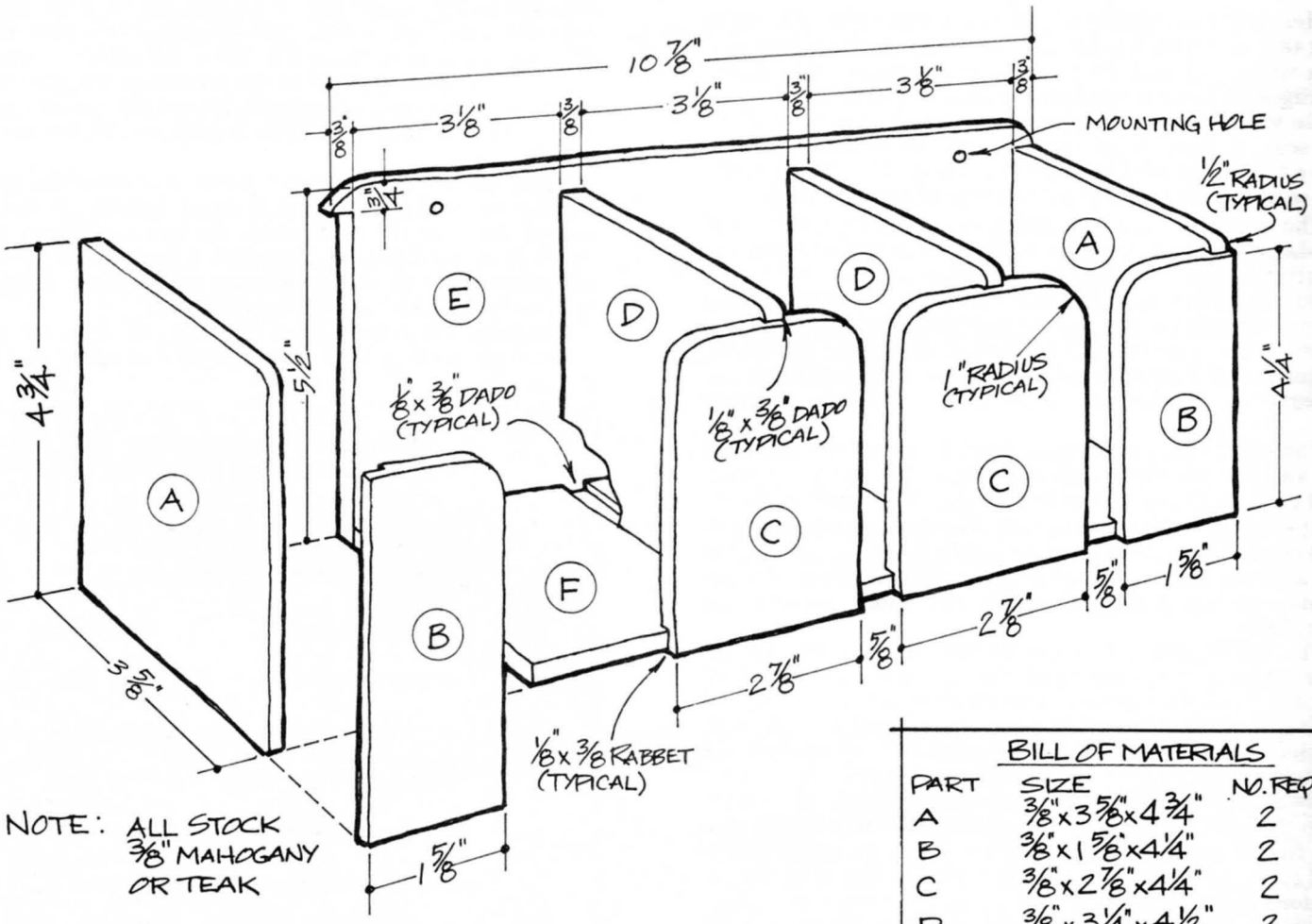
Since no nails or screws are used in the joinery, it's important that all parts are cut square and the rabbet and dado joints fit perfectly. Dadoes should be cut on the snug side to allow for sanding. If the rack is to be used on a boat use a water-resistant glue. Use extra care in sanding all parts and rounding off corners.

If you've got enough clamps, the entire unit can be clamped up at once; otherwise join back, bottom and parts D and C first, then later add the ends A and B. Finish with penetrating oil, enamel or urethane varnish.

It's a very nice way to say "thank you" for a week-end invitation on board.



Mug Rack

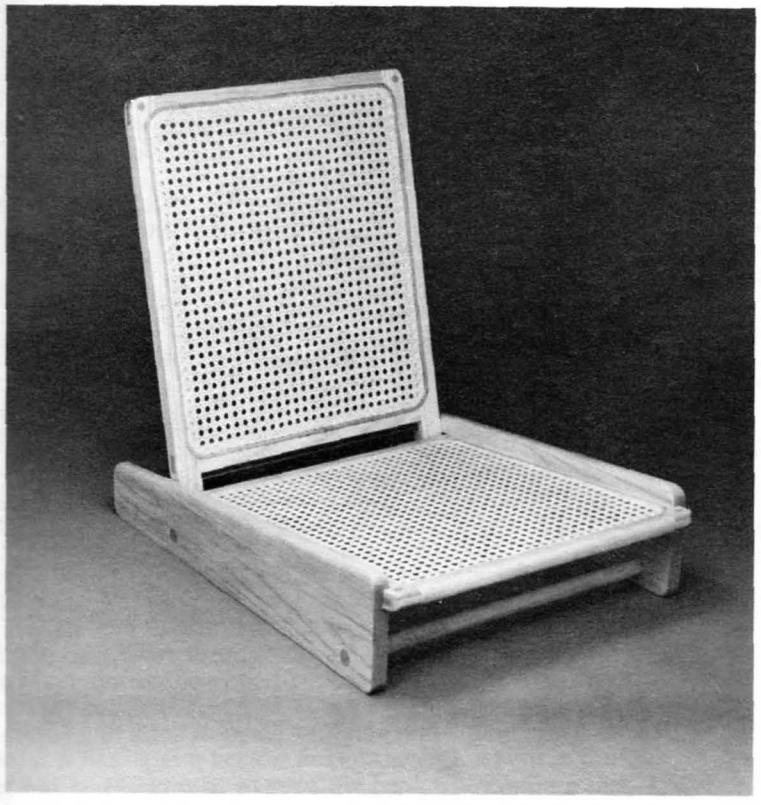


NOTE: ALL STOCK ⅜" MAHOGANY OR TEAK

BILL OF MATERIALS

PART	SIZE	NO. REQ'D.
A	⅜" x 3 5/8" x 4 3/4"	2
B	⅜" x 1 5/8" x 4 1/4"	2
C	⅜" x 2 7/8" x 4 1/4"	2
D	⅜" x 3 1/4" x 4 1/2"	2
E	⅜" x 5 1/2" x 10 7/8"	1
F	⅜" x 3 1/4" x 10 1/8"	1

Folding Sun Seat



Here's a comfortable way to relax and enjoy the warm sun this summer. It's an attractive and unusual sun seat that will easily fold up and become portable. To provide strength, ¾" ash is used for the frames and sides. To minimize weight, pre-woven (machine made) cane is used for the seat and back. If you take it to the pool or beach though, use a towel to protect it from wet bathing suits. If you don't, the wet cane may stretch out of shape and lose strength.

The two sides (A) can be made first. Referring to the Bill of Materials, cut to overall length and width, then mark the location of the ¼" deep by ¾" wide stopped dado. The dado can be cut using the dado head cutter, or by making repeated passes with a regular sawblade. Stop the cuts just short of the end of the dado, then clean up the remaining material with a sharp chisel. Now the front to back taper can be cut using a saber saw, band saw, or table saw tapering jig.

The seat frame can be made next. Cut the front and back (E) and sides (F) to length and width. The tenons on each end of parts E can be made with the dado head or by repeated passes with the sawblade. The open mortise on each end of parts F can best be made with a tenon jig. Apply glue (an aliphatic resin is a good choice) to all mortise and tenon joints, then firmly clamp the entire frame unit. Allow to dry overnight.

The spline groove can now be cut. Remove any excess glue squeeze out, then sand the top frame surface until smooth. The spline groove is made using a router equipped with a router guide and contour finger, and a 3/16" dia. straight bit. Set the bit for a ¼" depth of cut and set the contour finger for a cut ½" from the inside edge (see spline groove detail). With the contour finger firmly in contact with the inside edge, start the router and lower the bit into the frame. Begin the cut along a straight length of frame and move the router in a counterclockwise direction. As the contour finger contacts a corner, use the corner as a pivot point and swing the bit in a smooth radius. When the bit has swung 90 degrees continue the cut along a straight length. Proceed in this manner until all four sides and all four corners have been cut to form one continuous groove. Now, four ⅜" diameter x ¾" long dowel pins can be added at each corner as shown. Complete preliminary work on the frame by using a file to shape a slight relief angle (see spline groove detail) on the inside of all four frame pieces. The back frame (parts B, C & D) is contructed in basically the same manner.

To simplify the caning process we selected pre-woven cane. A variety of weaves are available, but we chose the type designated as "fine - open ½ inch". It is sold by the running foot in several standard widths. Four feet of the 18" width is more than enough material to build this project. You'll also need to order about 12 feet of #8 reed spline. Our cane was purchased from Connecticut Cane & Reed Co., P.O. Box 1276, Manchester, CT 06040. Current price is $4.20/foot for cane, 10¢/foot for spline. Another source for pre-woven cane is The Woodworker's Store, 21801 Industrial Blvd., Rogers, MN 55374.

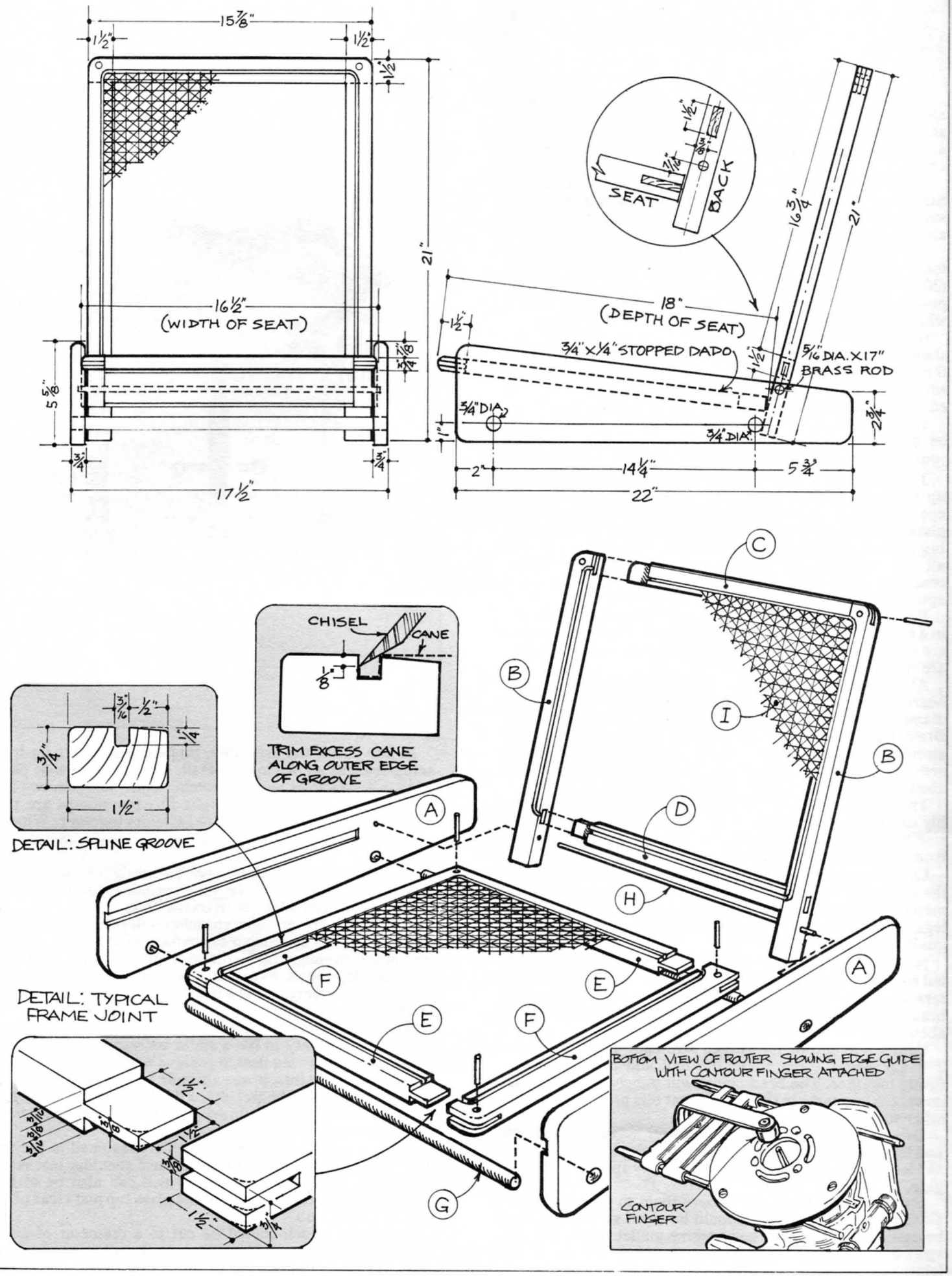
Before starting to apply the cane you'll need to make about 12 wood wedges. Cut wedges 1" wide x 1½" long and tapered from ¼" thick to ⅛" thick. These are used to press the cane into the groove and temporarily hold it in place as it is stretched on the frame. Cut the cane so that it overlaps the groove by at least ¾" on all four sides. The spline should be cut for about a 1" overlap. To make the cane and spline pliable, allow to soak 1 hour in warm water. After soaking, remove and drip dry for a few minutes before using. With the shiny side up, align the cane on the frame making sure the strands are parallel with the grooves. Now, starting with the middle of the groove furthest away from you, use a wedge to push the cane into the groove, leaving the wedge in place. Using another wedge, continue the process of pushing the cane along the length of the groove, always working from the middle toward a corner. Removing excess strands that are parallel to the groove will make it easier to work the remaining cane. Three wedges on this side should be satisfactory. Now pull the cane toward the opposite side and repeat the process. The side frame grooves can then be treated in the same manner. After all the cane has been pushed to the bottom of the groove, including corners, use a sharp chisel to cut the excess strands at a point just below the outside edge of the groove (see detail).

Apply liquid hide glue to the groove and insert the spline, tapping in place with a block of wood. Remove wedges as you go along. At the point where the spline overlaps, use a chisel to cut a miter joint. Any excess glue should be wiped off. Allow the cane about 48 hours to dry. As it dries, the cane will shrink and tighten considerable.

The project is assembled as shown in the drawing. After a thorough sanding, Watco Danish Oil was added as a final finish.

Sun Seat - Bill of Materials
(All Dimensions Actual)

Part	Description	Size	Req'd
A	Side	¾ x 5⅝ x 22	2
B	Back Frame Sides	¾ x 1½ x 21	2
C	Back Frame Top	¾ x 1½ x 15⅞	1
D	Back Frame Bottom	¾ x 1½ x 15⅞	1
E	Seat Frame Ft. & Back	¾ x 1½ x 16½	2
F	Seat Frame Sides	¾ x 1½ x 18	2
G	Dowel Stretcher	¾ dia. x 17½	2
H	Brass Rod	5/16 dia. x 17	1
I	Pre-Woven Cane	Fine Open ½"	


15⅞"
1½"
1½"
1½"
21"
16½"
(WIDTH OF SEAT)
5⅝"
¾"
¾"
17½"
SEAT
BACK
1½"
¾" DIA.
¼"
16¾"
21"
18"
(DEPTH OF SEAT)
¾"x¼" STOPPED DADO
5/16 DIA. X 17"
BRASS ROD
¾" DIA.
¾" DIA.
1"
2¾"
2"
14¼"
5¾"
22"
CHISEL
CANE
⅛"
TRIM EXCESS CANE ALONG OUTER EDGE OF GROOVE
3/16"
½"
¼"
¾"
1½"
DETAIL: SPLINE GROOVE
A
B
C
D
E
F
G
H
I
DETAIL: TYPICAL FRAME JOINT
1½"
1½"
1½"
BOTTOM VIEW OF ROUTER SHOWING EDGE GUIDE WITH CONTOUR FINGER ATTACHED
CONTOUR FINGER

Ship's Wheel Table

Furnishings and accessories with a nautical flavor have always been popular, even in areas far from the sea. This salty little table with its ship's wheel top is sure to generate a lot of favorable comment. It looks great alongside an easy chair.

Building an authentic ship's wheel is a rather tricky and time-consuming project. In this case though, it's not necessary to build a wheel as it can be mail-ordered, ready-made and completely finished for a reasonable price.

The wheel on the table shown was ordered from Prestons, Greenport, NY 11944. It's listed as catalog no. 780-A (30″ overall diameter). The price was $64.90 including shipping and handling. It would be difficult to build such a wheel, including the brass hub, for less than that price.

Our wheel appears to be made of a type of mahogany, stained a golden brown to resemble teak. We chose to make the table base of maple which was stained to match the wheel. The table top of ¼″ plate glass was cut and the edges were ground by a local glass shop at a cost of $10.00.

Since we cannot guarantee that the wheel you order will be dimensioned exactly as ours, it's advisable to secure your wheel first before shaping the table legs and stretchers.

The three legs are turned first from either solid or glued up 1¾″ square x 20″ long stock. Unless you've got a good eye, it's usually best to prepare a full-size hardboard template of the turning profile to use for marking off and shaping the various elements of the turning. This will insure that all legs are identical. The legs are belt sanded between centers at slow speed and it's also convenient to stain and apply the finish while rotating the leg by hand.

If you lack a lathe, an alternate leg is shown which is also in a traditional style and quite attractive. Stopped chamfers are cut along the corners between the squares and the feet are carved to a taper.

After completing the legs, prepare a plywood or cardboard pattern of the wheel showing the inside and outside diameters of the flat rim to which the legs will be joined. Draw leg locations on the pattern and lay out the leg stretcher assembly. Note that the centers of the leg posts are 120 degrees apart and the squared leg tops are inset about 3/16″ from the outer edge of the flat rim.

The curved portion of the anchor shaped stretcher assembly can be cut from a 5/4 (1⅛″ actual) x 6 x 17½″ board. Use tracing paper to transfer the shape of the curved piece from the pattern to your stock.

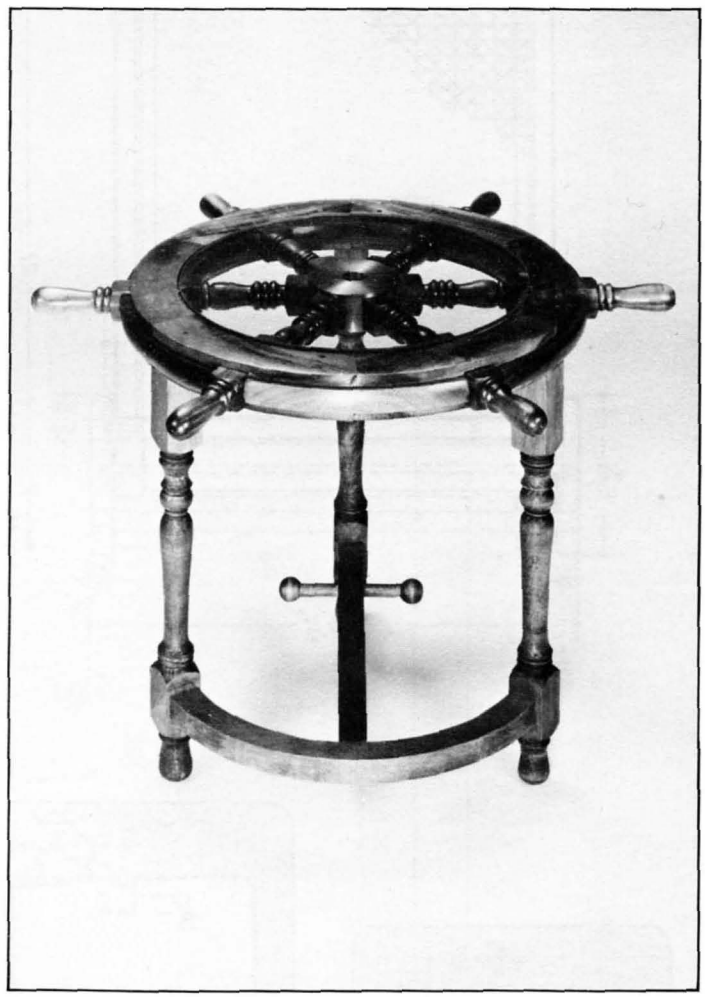
Cut the curved piece with bandsaw or sabersaw and leave the ends a bit longer than required so that they can be trimmed for an exact fit against the lower square portions of the legs. Also cut the straight stretcher using the pattern as a guide for length.

Note that the holes for the ⅜″ dia. dowel tenons are drilled square to the legs and stretcher ends. Locate dowel centers on a diagonal in the stretcher ends and drive small brads into the center points, clipping the heads off so that about 1/16″ of the brad protrudes.

Center one end of the curved stretcher on a leg square 2⅛″ up from the bottom of the foot and press the parts firmly together. The brad points will punch corresponding dowel center marks in the leg. Repeat this procedure for the other stretcher joints.

Use a doweling jig to drill the dowel holes in stretchers and legs. The combined depth of both holes should be about ⅛″ longer than the dowel lengths to allow space for trapped glue.

Cut dowels to length and groove them to permit trapped air to escape. The dowels should be sized so that they can be easily tapped into the holes with a mallet. Fit up the leg-stretcher assembly without glue to check the fit of the joints.



Before gluing the assembly, prepare a clamping jig from scrap stock as shown in the detail. Use a thin stick to place glue in dowel holes and on stretcher ends, and join two legs with curved stretcher. Two light-duty bar clamps are then used with the clamping jig to draw joints together. Wipe all squeezed out glue from the joints and allow this assembly to dry.

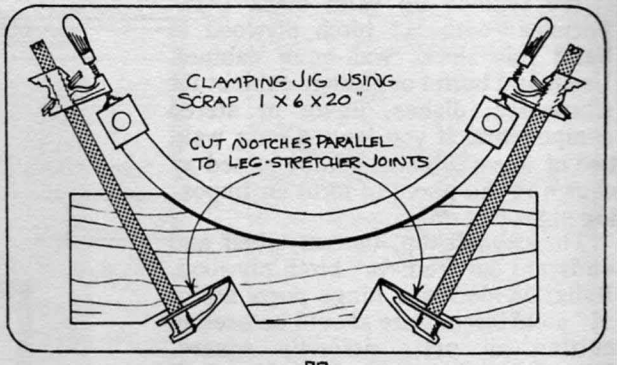
In the meantime, drill through the straight stretcher for a ⅝″ dia. cross-piece. This is glued in place and tipped with wooden balls drilled out to fit on the ends.

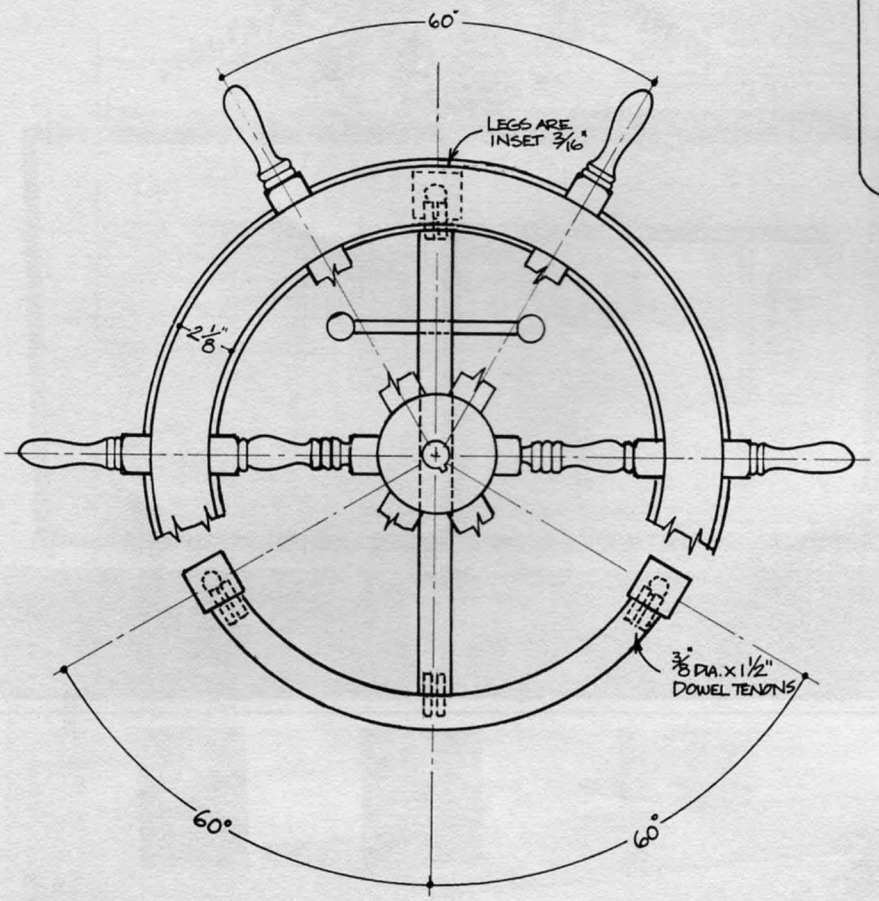
The end of the straight stretcher will have to be shaped with a rasp and sandpaper to conform to the slight curve of the other stretcher. Join the straight stretcher to the remaining leg; then join this assembly to the other leg-stretcher assembly, using a bar clamp to hold everything together until dry.

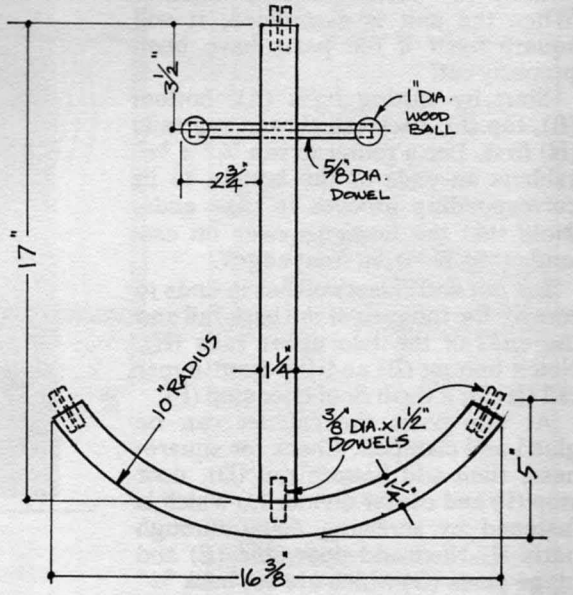
The flat rim on our wheel had a very slight convex shape so it was necessary to file a slight corresponding concavity on the top of each leg post to achieve a nice fit of the legs to the wheel. After this, it was a simple matter to drill the legs and the wheel for the ¾″ dia. x 1½″ dowel pins that hold the base to the top. Again, clipped brads were used to locate dowel centers.

Finally, six small rubber buttons are fastened to the top-side of each wheel spoke on the square shoulder just inside the wheel rim. These buttons (which can also be of felt) should be high enough to keep the glass top just clear of the central wheel hub.

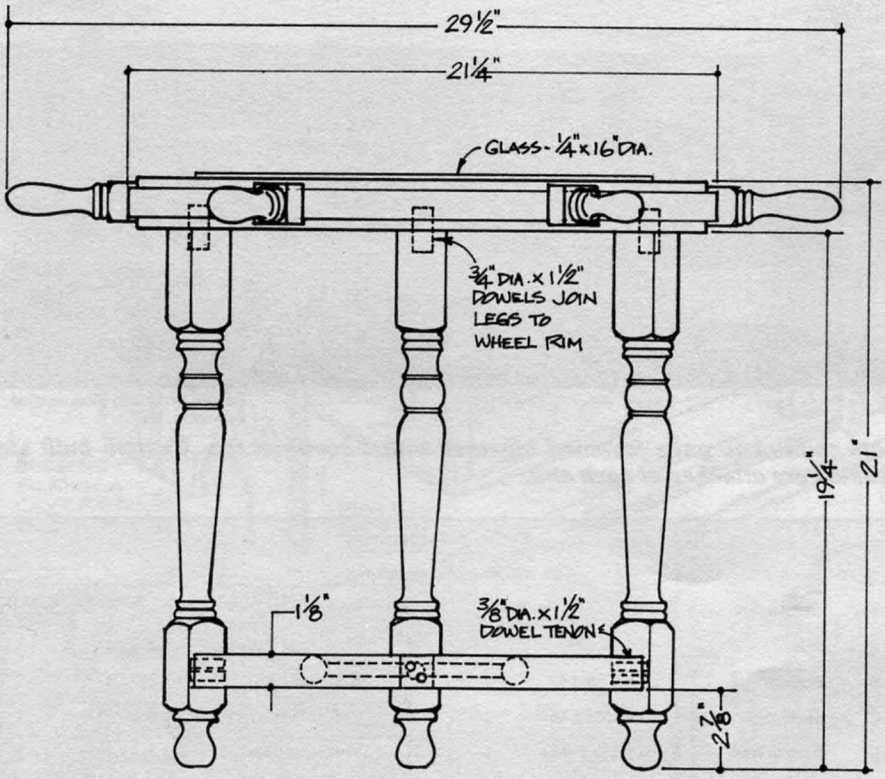
The glass, which should be cut to a diameter of about 1/16″ less than the inside of the wheel, will protrude about ⅛″ above the rim when resting on the buttons.

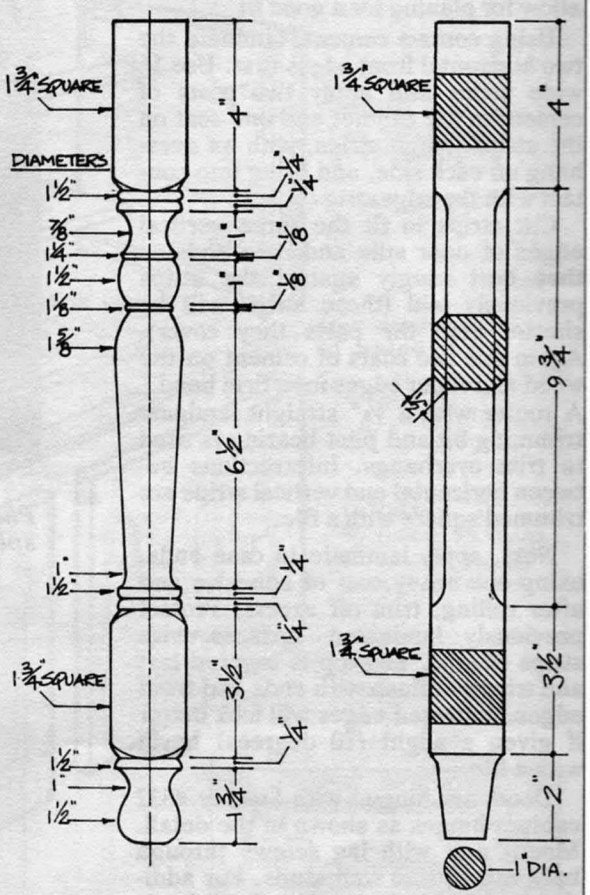






DETAIL: STRETCHER ASSEMBLY - 5/4" STOCK





DETAIL: LEG TURNING

ALTERNATE CHAMFERED LEG

Contemporary Buffet

We teamed up satin black 1/16" Formica® with ¾" birch plywood to build this sleek, wall-hung cabinet. Use it as a buffet or storage cabinet for silverware, dishes, liquor or stereo components. If you have a long wall, two of these cabinets can be joined as shown in the photo to form an imposing eight foot unit.

The cabinet top, bottom, shelf and ends are cut from ¾" birch plywood. Rails, dividers and hinge posts are of ¾" solid birch. Care should be used in cutting all parts perfectly square. When the unit is assembled, it will square itself if the parts have been properly cut.

Start by cutting ends (A), bottom (B), top (L), back rail (I) and top rails (H) first. Use a router to run ¼" x ⅜" rabbets on ends of the bottom to fit corresponding grooves in case ends. Note that the lower grooves on case ends stop ¾" from front edges.

Lay out and chisel notches in ends to receive the tongues of the back rail and the ends of the two upper rails (H). Notch bottom (B) and the front upper rail (H) for a flush fit of door stop (F).

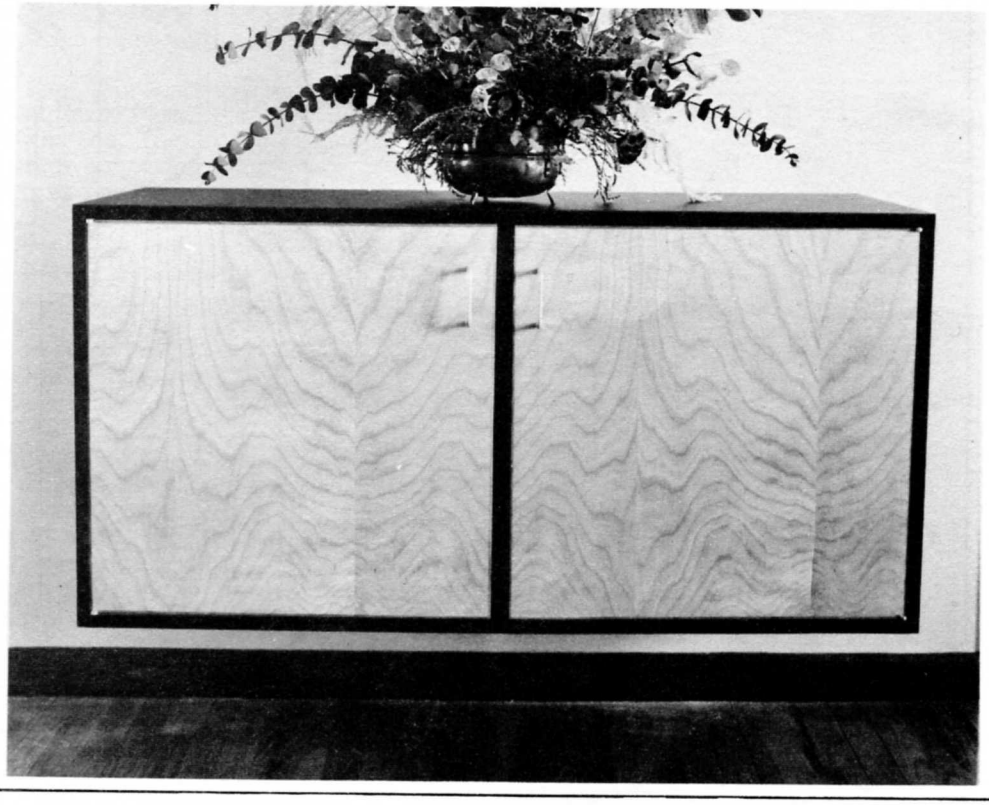
At this point the cabinet can be glued and clamped. Check for squareness, then add bottom rail (D), door stop (F) and center divider (J) which is fastened by screwing down through parts H. Next add door stile (E) and hinge posts (G) which are set back ¾" to allow for the doors which are of ¾" birch plywood edged with ⅛" birch strips. These can be a bit thicker to allow for planing for a good fit.

Using contact cement, laminate the two horizontal front edges first. Use 1" wide strips and apply two coats of cement to the cabinet and one coat on the strips. Align strips, with an overhang on each side, and bring into contact with the edges.

Cut strips to fit the three vertical edges of door stile and case ends so they butt snugly against the strips previously laid (these strips will be shorter than the parts they cover). Again use two coats of cement on the wood and roller edges for a firm bond. A router with a ⅜" straight laminate trimming bit and pilot bearing is used to trim overhangs. Intersections between horizontal and vertical strips are trimmed square with a file.

Next, apply laminate to case ends, using one heavy coat of adhesive and after rolling, trim off excess. Protect previously laminated surfaces with strips of tape. The top is covered last and trimmed flush with ends and front edges. Trimmed edges will look better if given a slight (10 degrees) bevel with a file.

Doors are hinged with Stanley #332 cabinet hinges as shown in the detail. Mount unit with lag screws through back rail (I) into wall studs. For additional security, a metal angle or hardwood strip is lagged to the studs to support the bottom of the unit.



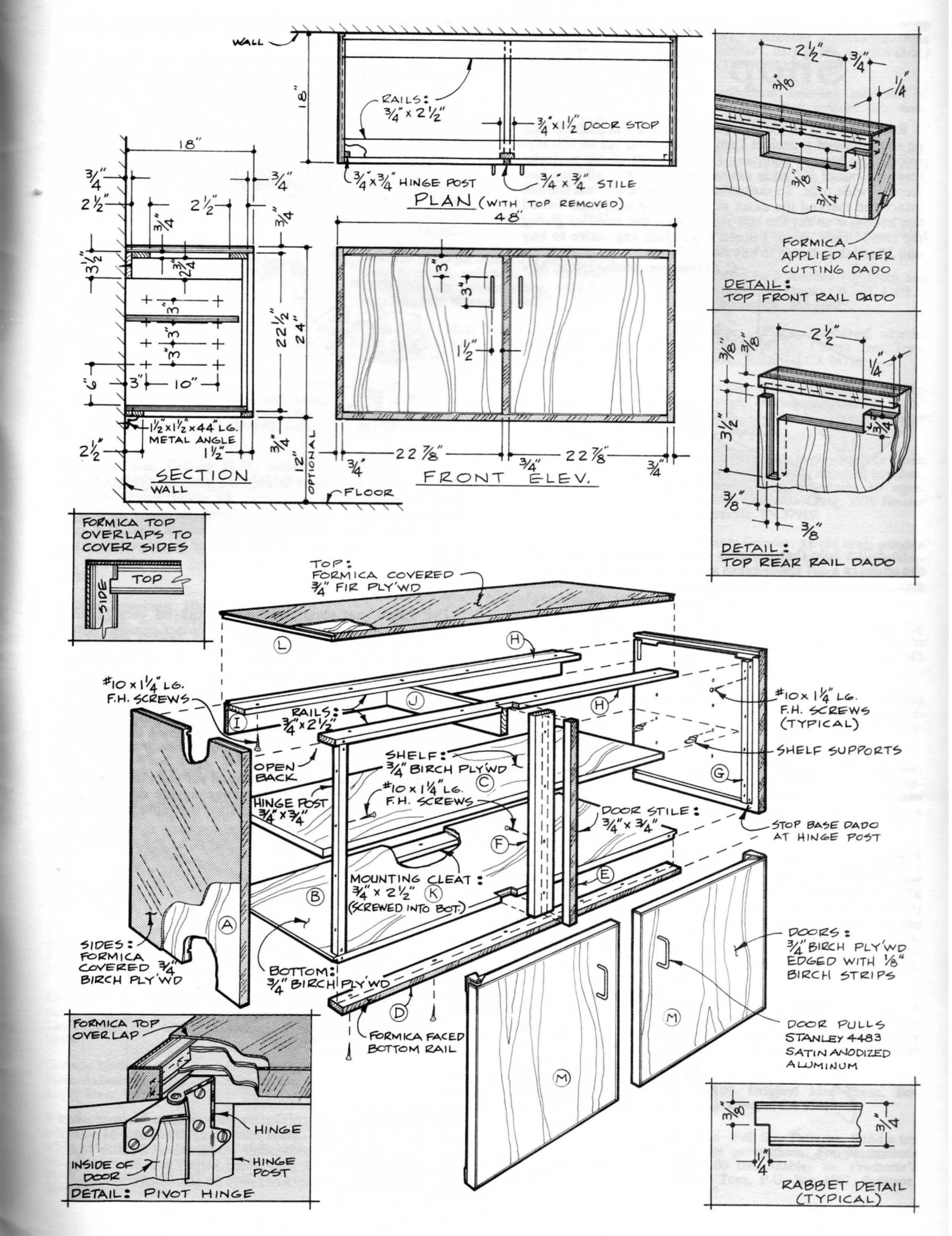
Design by Martin Bloomenthal, AIA, Princeton, NJ

Photo shows two units fastened together with a common top. Custom-built stereo speakers are attached at each end.

Buffet - Bill of Materials

(All Dimensions Actual)

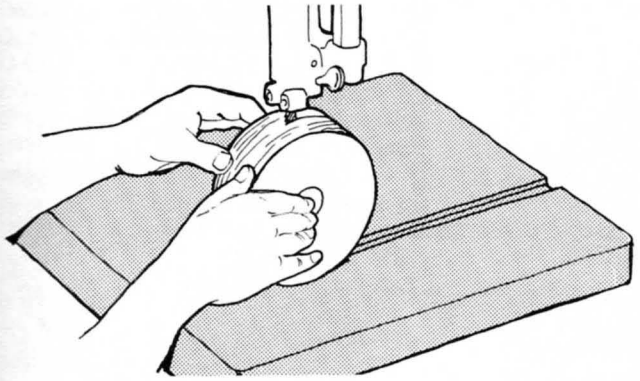
Part	Description	Size	No. Req'd	Part	Description	Size	No. Req'd
A	Side	¾ x 18 x 24	2	H	Ft. & Rear Rails	¾ x 2½ x 47	2
B	Bottom	¾ x 17¼ x 47	1	I	Back Rail	¾ x 3½ x 47	1
C	Shelf	¾ x 15½ x 46½	1	J	Center Divider	¾ x 2¾ x 15¾	1
D	Bottom Rail	¾ x 1½ x 46½	1	K	Mounting Cleat	¾ x 2½ x 46½	1
E	Door Stile	¾ x ¾ x 22½	1	L	Top	¾ x 18 x 48	1
F	Door Stop	¾ x 1½ x 22½	1	M	Door	¾ x 22⅛ x 22½	2
G	Hinge Post	¾ x ¾ x 21	2	N	Mounting Angle Iron	1½ x 1½ x 44	1


WALL
18"
RAILS: ¾" x 2½"
¾" x 1½" DOOR STOP
¾" x ¾" HINGE POST
¾" x ¾" STILE
PLAN (WITH TOP REMOVED)
48"
3"
1½"
22⅞"
¾"
FRONT ELEV.
18"
¾"
2½"
3"
2¼"
3½"
6"
10"
22½"
24"
1½" x 1½" x 44" LG. METAL ANGLE
12" OPTIONAL
SECTION
FLOOR
2½"
¾"
1¼"
⅜"
FORMICA APPLIED AFTER CUTTING DADO
DETAIL: TOP FRONT RAIL DADO
DETAIL: TOP REAR RAIL DADO
FORMICA TOP OVERLAPS TO COVER SIDES
TOP
SIDE
TOP: FORMICA COVERED ¾" FIR PLY'WD
#10 x 1¼" LG. F.H. SCREWS
#10 x 1¼" LG. F.H. SCREWS (TYPICAL)
RAILS: ¾" x 2½"
SHELF SUPPORTS
OPEN BACK
SHELF: ¾" BIRCH PLY'WD
HINGE POST ¾" x ¾"
DOOR STILE: ¾" x ¾"
STOP BASE DADO AT HINGE POST
MOUNTING CLEAT: ¾" x 2½" (SCREWED INTO BOT.)
SIDES: FORMICA COVERED ¾" BIRCH PLY'WD
BOTTOM: ¾" BIRCH PLY'WD
DOORS: ¾" BIRCH PLY'WD EDGED WITH ⅛" BIRCH STRIPS
FORMICA FACED BOTTOM RAIL
DOOR PULLS STANLEY 4483 SATIN ANODIZED ALUMINUM
FORMICA TOP OVERLAP
HINGE
INSIDE OF DOOR
HINGE POST
DETAIL: PIVOT HINGE
RABBET DETAIL (TYPICAL)

Shop Tips

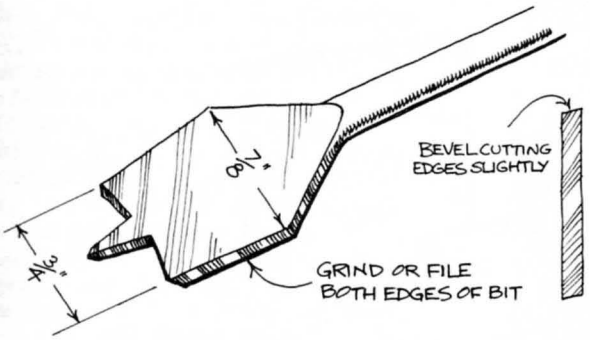
Recently I was in the process of putting oak veneer tape on the edges of a project I am constructing out of oak plywood. The lumber company I obtain most of my material from ran out of ¾" wide oak veneer tape, and all they had were 2" wide rolls. To make the tape narrower I left the roll intact and marked the exact middle of the roll, then I used the bandsaw to cut the roll right down the middle, giving me two 1" rolls. Also, I noted it was less expensive to buy one 2" roll than it was to buy two ¾" rolls.

C. Schwieger, Minneapolis, MN



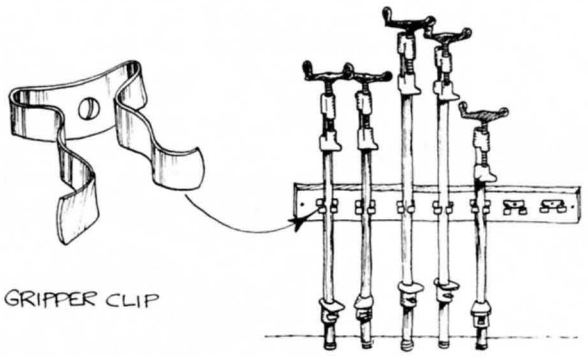
To drill a hole that securely holds candles, grind or file the edges of a ⅞" spade bit as shown. The tapered hole that results will forever put an end to wobbly candles.

D. Wonderlich, Mt. Pleasant, IA



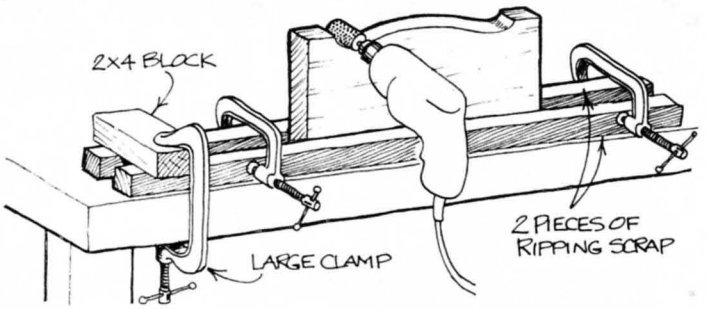
Those small metal gripper clips, available in most hardware and building supply centers, are great for organizing all your pipe clamps. Attach several to a board, then secure the board to your shop wall. Snap the clamps in place with one end resting on the floor.

P. Levine, Sherman, CT



If your shop lacks a vise, drum sanding with a hand drill can be a task. Here is a simple vise I made while sanding a trestle table leg. Set the piece parallel to the workbench front with scrap stock on each side (mine were ripping scraps approximately ½" x 1" x 3'). Clamp the workpiece between the scrap stock with small C-clamps leaving room at one end for a 2 x 4 block and a larger C-clamp to secure the rig to the bench. The edge of the workpiece can now easily be sanded. To turn the piece over just loosen the small clamps.

K. Brooks, Framingham, MA

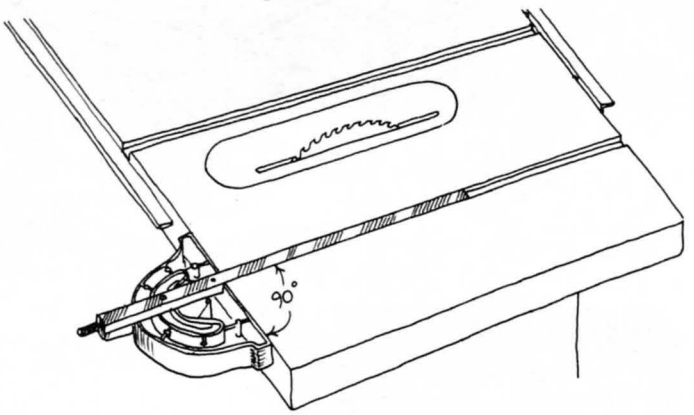


When using hardwood, it's often a good idea to use hardened screws such as sheetrock or sheet metal screws. Hardened screws don't tend to break as easily as bright metal wood screws. Also, if a Phillips head is used, it is less likely that the screwdriver will slip and damage the work surface.

I've found that metal screen wire can be very helpful when applying plastic laminate with contact cement. After the cement has sufficiently dried, I put the screen wire on the surface to be covered, lapping it if necessary. Next align the laminate (over the screen), then carefully pull the screen wire out, rolling the laminate as you go along. When the job is done, the screen can be rolled up and stored.

M. Tye, Oakland, IA

Here's a quick and accurate way to set your miter gauge to 90 degrees. With the miter gauge upside down in the miter slot, butt the gauge face against the table back edge, then tighten the locking handle.



The Woodworker's Journal *pays for reader submitted shop tips that are published. Send your ideas (including sketch if necessary) to:* The Woodworker's Journal, *P.O. Box 1629, New Milford, CT 06776, Attention: Shop Tip Editor. We redraw all sketches so they need only be clear and complete.*

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Wooden Toy Plans. Simple Hand Tool Projects: truck, bulldozer, train engine, car. Send $2.00, Turner Toys, Rt 1 Box 48, Colt, AR 72326.

Waterbed Plans, Catalog $1.00, refundable. Waterbeds by Mail, WJ, 1657 East Harbor Drive, Warrenton, OR 97146.

"How Polyethylene Glycol (PEG) Helps the Hobbyist Who Works with Wood"; 25 page booklet. Send $2.00 to: Brandy Station, Box 78AMJW, RD#3, Corning, NY 14830.

Bagpipe Drawings: Highland, Lowland, $11; Uillean, $15; Fireside, $8; Practice Chanter, $3; postage $1.50. Dougan, 19 Hunter Road, Crosshouse, Ayshire, Scotland.

Table Kit for Woodworkers: detailed plans and instructions for 8 different tables with necessary lumber for any one--selected, kiln dried, solid American cherry, S4S, $69 plus $10 handling and shipping. Plans only $9.50. TuggleWood, Dept. WJ, P.O. Box 21436, Louisville, KY 40221.

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Variety of Plans - patio furniture, planter box, mailbox stand, and more. Send $2.00 and SASE to J.L. Napp, Rt 3 Box 336-D, Meridian, MS 39301.

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Catalog of Wooden Toy Truck Patterns, $1.00 (refundable). Franks (WJ-2), 1202 S. Second, Booneville, MS 38829.

Toddler's Rocking Horse, Lion and Elephant. Full size plans. Simply trace and cut out. Fun for the small ones for years to come. Plans $5.00. B & F Woodcraft, P.O. Box 791, Pinson, AL 35126.

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.

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Ritter production doweling machine, ¾ h.p., pneumatic foot switch, like new, $485. 803-798-5400.

Do-it-Yourself. Build a 20 inch Jig Saw. Plan or complete kit. For information send SASE to W & R Jenkins, Box 812, Culver City, CA 90230.

Unusual Frame - No Miters. Instructions $1.00 SASE, Rustic Charm, P.O. Box 06084 Ft. Myers, FL 33906.

New Patterns for 5 Wooden Toy Truck and trailer sets, $3.00, Franks (WJ-2), 1202 S. Second, Booneville, MS 38829.

Make Toys - Plans, hardwood wheels, parts - catalog $1.00. Cherry Tree Toys, 2547 8th St., Berkeley, CA 94710.

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Stained Glass & supplies - patterns, tools, books, everything required for the craft. Free catalog #WWJ. Ed Hoy's Stained Glass, 999 E. Chicago Ave., Naperville, IL 60540.

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Toy Plans, includes 18-wheeler truck, cars, train, $5.00. Original Idea Plans, Box 13127, Sacramento, CA 95813.

Rok-a-Zoo Full Size Patterns. Build a toy to last for generations. For illustrations send $1.00 (refundable) to: Frechette's Heirloom Toys, P.O. Box 4567, Spokane, WA 99202.

Shop Notes