The Woodworker's Journal

Vol. 5, No. 4 July/August 1981 $2.25

Miniature Empire Chest

Included In This Issue:

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, Butterfly-Wing Table, 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.

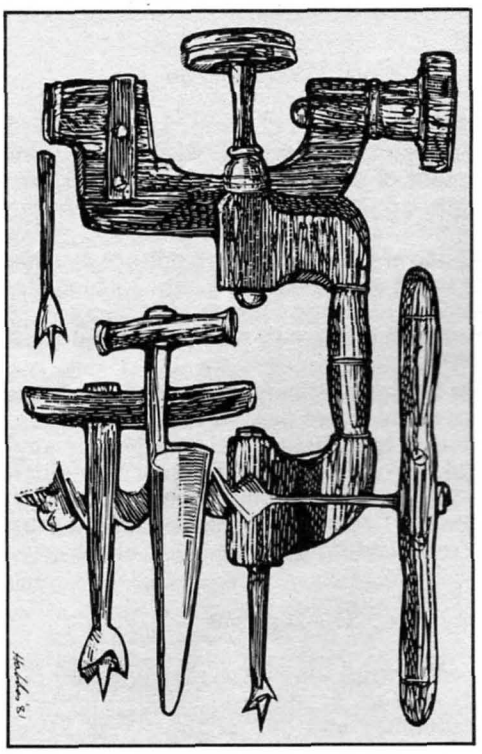
Vol. 4, No. 6 Nov-Dec '80: 17th Cent. Mantle Clock, Toy Truck, Bud Vase, Grain Scoop, Letter Rack, Phone Memo Caddy, Toy Circus Wagons-Animal Puzzles, Library Stool, Quilt Rack, Ratchet Table Lamp, 18th Cent. Trestle Table.

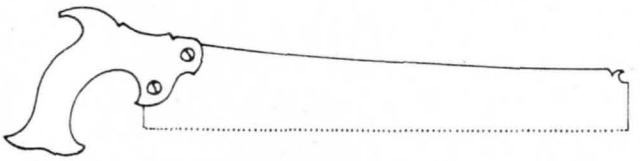
Vol. 5, No. 1 Jan-Feb '81: 18th Cent. Wall Shelves, Hand Mirror, Cutting Boards, Tic-Tac-Toe Game, 18th Cent. Vanity, Shaker Pine Cupboard, Tenon Jig, Towel Ring, Matchbox, Corner Shelves, Contemporary Cabinet, Black Forest Clock, Shop Drawing Board.

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.

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.

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.





The Woodworker's Journal

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JULY/AUGUST 1981

DEPARTMENTS

PROJECTS

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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.

Shoptalk

We Get Letters

Now and then we get a letter from a staunch traditionalist protesting projects with plastic laminates bonded to plywood or particle board as not worthy of inclusion in a magazine supposedly devoted to the working of wood. On the other hand we also get letters from readers, working in the contemporary mode, who accuse us of being hung up in the New England furniture syndrome, that is, devoting too much space to period furniture and not enough to contemporary projects utilizing modern materials.

More than anything else, publishers and editors want and need to know as much about their readers as possible. Over the long haul, our success depends very much on the percentage of readers who renew their subscriptions. The renewal rate depends on filling reader's needs...so we pay close attention to these letters and try to categorize them as traditional or contemporary oriented. If we start getting too many complaints from traditionalists, it's time to veer slightly away from the contemporary direction. Like a sailing helmsman, we are always trying to judge which way the wind is blowing and altering course to keep the boat moving.

Apart from unsolicited letters, one of the best ways to find out what readers want and expect is to survey a certain percentage of them. We will be doing this in the near future and some of you will be receiving a short questionnaire which will give you the opportunity to tell us what you like and dislike most about *The Woodworker's Journal.* Whether you return bouquets or brickbats, I'll certainly appreciate your response. It's your chance to change a small part of your world...and mine.

Wood Versus Plastic

Getting back to the subject of plastic laminates and their validity as a cabinetmaking material, I discussed this subject with a number of professional cabinetmakers and got, naturally enough, a number of opinions ranging from yea to nay.

Paul Levine, one of our contributing editors, has about as much love for wood as anybody I know..in fact there's a certain reverence in his voice when talking about it. Yet, he uses plastic laminate in some of his designs and feels quite comfortable with it.

He feels that laminates should be used for their own inherent qualities of color and ease of care rather than using them in an attempt to imitate wood, marble, or any other natural material. Using this *honest* approach, laminates are useful and attractive and can complement whatever wood is used in the design. I think the cabinet design on page 23 illustrates this complementary aspect very nicely.

The Big Time

Two big woodworking shows are scheduled for later this year, one in New York at Madison Square Garden on the 11-13th of September and one at the Hyatt Regency in Chicago from October 30 to November 1. These shows are for amateurs and professionals alike and should prove to be real eye-openers for those solitary woodworkers who haven't been aware of the enormous increase in the popularity of the craft and development of new tools and techniques. We'll be at the Garden show so please come and say hello. In the meantime, have a nice summer.

Jim McQuillan

Letters

In the "Restoring Antiques" column in your March/April issue, John Olson talks about using paint colorant as a means to match wood tones. His comments are very true, but he fails to point out that Japan drier should be added to the paint colorant or it will not dry.

R. Wherley, Hanover, PA.

John Olson replies:

Mr. Wherley is correct to a degree. Paint colorant, even a thick coat, will eventually dry, although it is rather unusual to apply it straight from the tube. In most cases, in order to get just the right color tone it is necessary to use a thinner of some sort. (My preference is turpentine). Paint colorant that has been thinned will dry within 24 hours. Granted a little, very little, Japan drier will hasten the process.

Can you tell me where to get sheet or roll magnets, the kind that can be cut to any size or shape to fit small projects?

G.C. Cabinet Co., Cabool, MO.

Woodcraft Supply Corp., 313 Montvale Ave., Woburn, MA 01888 sells flexible magnetic tape that has an adhesive backing. It measures ½" wide, 1/16" thick and comes 10 feet to a roll. It can be cut to size with regular scissors.

Where can I buy real small hinges, the kind used on doll houses?

F. Gajdosik, Natrona Hgts, PA 15065

You can get 5/16 butt hinges, ½ strap hinges and 9/16 "H" and "HL" hinges, made of brass, from the mail-order company Green Door Studio, 517 E. Annapolis St., St. Paul, MN 55118. They also carry a variety of other accessories for making miniature doll houses and furniture.

In reading the March/April 1981 letters section, I notice that F. Loner of Marietta, GA wanted to locate a source for decoy eyes. The best place to find them is Christian J. Hummul Co., P.O. Box 2877, Baltimore, MD 21225. They offer glass eyes of the highest quality in 3mm to 12mm. They also carry a standard grade at a lower price.

O.M. Otis, Coldwater, MI.

I use a 14" diameter sandstone grindstone (with the outer edge bathed in water) for sharpening. Unfortunately the grindstone is off center approximately ⅛". Can your readers provide any ideas on how to true it so that the outer circumference will remain equal distance from the tool rest as it revolves?

J. Cunningham, Twin Falls, ID.

I noted with interest your comments on dust in "Shoptalk", May/June 1981. I lived in Massachusetts some five years ago and had a whole basement full of woodtools, still do, but now I live here in Connecticut. My young son was helping me to make shelves, you know-plain pine shelves. He did the sanding with a plain orbital sander. This was close to the oilburner that heated the water for hot water and central heating.

A few days later I come home from work and the wife complains about smoky odor in the basement. Well, after dinner I went down, and found a basement full of partly combusted diesel/fuel oil. We called the furnace man, and proceeded that evening to take the furnace apart. Apparently the dust had collected on the heat exchange plates and started to carbon-

(cont'd on next page)

Letters (cont'd)

ize, which caused the fuel oil to deposit more carbon onto it, and this became progressively worse, until the combustion gases could not escape to the chimney anymore, and we had a house full of smoke. It took more than four hours to clean the furnace, and vacuum between the plates. Your concern is well taken.

P.A. Elias, Greenwich, CT.

Can you give an address for a supplier of marble for chest tops and other furniture?

R.W. Pearce, Ft. Pierce, FL.

To the best of our knowledge there isn't a mail-order source for marble. Our best suggestion would be for you to check your local telephone directory yellow pages (or the directory of a nearby large city) for a local marble dealer. They are usually listed under the heading "Marble-Natural". In most cases the dealers will cut the marble to just about any size or shape you desire.

In your January/February and March/April 1979 issues you have plans for a roll-top desk. Your write-up suggests using a Rockwell panel raising cutter for making the raised panels; however our local Rockwell dealer says he can't find one in his catalog. Can you help?

Mrs. G. Hixon, Kentland, IN.

The Rockwell panel raising cutter part number is 09-214. If you can't get it locally, it can be ordered from Rudolf Bass, Inc., 45 Halladay St., Jersey City, NJ 07304.

Would you be able to tell me where to buy brass rivets of the type used in making wood-handled knives?

O. Gilbertson, Clarissa, MN 56440

We don't know where to get brass rivets, but you can get them made of solid nickel from the company Woodcraft Supply Corp., 313 Montvale Ave., Woburn, MA 01888.

As a subscriber to your fine magazine, I thought you might be interested in learning what we have done here in Rutherford County, North Carolina... and perhaps offer us some help. Recently we decided to find out if anyone would like to meet to discuss woodworking. Invitations were sent to those we thought might be interested and the response was so great we got together for a supper meeting. Much to our surprise, 22 persons attended, with an additional 13 sending regrets but asking to be invited to the next meeting. The group decided to form a club and officers were elected. The new clubmembers range in age from early twenties to well into retirement, and the skill level runs from beginner to expert.

If any of your readers have also formed woodworking clubs, we would like to ask if they could pass along any helpful information or advice to us. It would be sincerely appreciated by all our clubmembers.

Kermit Epley
26 W. Main St.
Forest City, NC 28043.

Page 17 of your March/April 1981 issue features plans for a push-pull toy. In making the toy, I carefully followed the directions...but it won't operate. When it's pushed or pulled the shoe gets hung up on the cam.

W. Robinson, Natchitoches, LA.

Three factors can cause the shoe to jam against the cam. (1) The poppet shaft fitting too loosely in the frame holes. This allows the shaft to move out of vertical (when viewed from the side) and can cause the bottom corner of the shoe to catch on the cam. A loose hole can be caused by a poppet shaft that's a bit too small or a frame hole that's a bit too big. Check your hole and shaft diameters. (2) The frame holes for the poppet shaft may be drilled at a slight angle rather than

exactly vertical. This has the same effect as a loose-fitting shaft. (3) The shoe may be cut a bit too short. With a short shoe, the cam will contact the lower corner of the shoe rather than the shoe bottom.

For any of these problems, a relatively easy solution is to cut the shoes 2" long rather than 1½". This extra length will assure that the front corner of the shoe does not contact the cam.

Gluing Felt

In the May/June issue "Letters", J. Lutz tells about his problem with glue soaking through felt on the bottom of a project. His problem is caused because too much glue is being used. Spread glue thinly on the bottom of the project and use stiff cardboard to spread it evenly. Leave only a thin glaze. I've used this method many times, using Elmer's glue, and have never had a problem.

W. Lewis, E. Weymouth, MA.

I would like to offer a couple of comments on gluing felt. I have used the self-sticking felt you suggested in the last issue but have given up on it for a couple of reasons. It is quite thin with a very hard surface. Also the adhesive seems to be anything but permanent.

I use a soft green felt which I get from Constantine (their #GF36-36" wide @ $2.75 a yard). If possible I cut the felt somewhat oversize and trim it after it has been applied. A layer of contact cement is lightly spread on one side of the felt piece and the surface to which it is to be applied is likewise covered with a layer of cement. When the cement has dried (about ½ hour) the felt is carefully placed on the surface to which it bonds instantly. I then immediately go over the felt with a small roller. After trimming off any excess felt I have a nice soft surface which is permanently bonded.

S.W. Hathaway, Sudbury, MA.

If you want to be absolutely certain of no glue strike-through, use the method employed for thin fabrics, such as silk, but which works equally well with any fabric. Brush a coat of glue on the wood base and let it dry thoroughly. Meanwhile, cut the felt to size and heat an ordinary, household electric iron to medium heat, such as "wool". When the glue is dry to the touch, lay on the felt and a piece of plain, blank paper over it (to protect the felt). Now just iron the felt on. If you are using a steam iron, make sure the water is out of it as a blast of steam won't help the process. The heat from the iron reactivates the glue, resulting in a firm bond without danger of strike-through.

M. Banister, Portland, OR.

Workshop Income

by Paul Levine

Sometimes it seems as though the job of an independent cabinetmaker is a near impossible one. To be successful, the cabinetmaker must not only master his own craft, but must also be knowledgeable in such various fields as designing, buying, selling and advertising. Even when I say "cabinetmaker", what I'm really talking about is a combination of several related occupations. For example, turning, carving, and finishing are all skills that a cabinetmaker possesses, yet each one is actually an occupation in itself.

Photography may not seem to be related to the work of a cabinetmaker, but I've found that it's another one of those non-cabinetmaking fields that's well worth learning. A good photograph can go a long way toward selling a cabinet. It's often not very practical to bring a sample of your work to a potential client (particularly if it's a large piece), and the client may not always be willing or able to come to you. In such cases, good quality photographs of your work can be an effective sales tool. It can also be helpful to have photos of items that the client is specifically interested in (tables, desks, etc.). Many cabinetmakers go one step further and use photographs as a basis for preparing a printed brochure. Basically, these brochures are mini-catalogs showing the various items that the cabinetmaker can produce. It's a very professional approach that often works well.

Generally speaking, photographs must be high quality in order to be effective. First-class design and woodworking may not be apparent in a photo that's filled with distracting background, out-of-focus, and dark. High quality cabinetmaking deserves high quality photographs, so it's important to learn at least the basic techniques for taking good shots. Although good photography is not something that can be learned overnight, with practice and patience just about anyone can develop the skills needed to take quality photos.

Shooting slides is one way to limit your commitment and investment. Once you have your set-up, you can take many shots of the same thing. Slides are the medium of galleries and craft fairs. For just the cost of postage and development you can even mail slides (in protective plastic sleeves), enabling you to show your work to people all over the world.

The next level of commitment is learning how to develop your own black and white film. With some experience, you'll probably find that you can produce better negatives than those from photo labs. You can also have contact sheets made from the negatives. Contact sheets save money because they allow you to review the negatives before enlargement. This way you only have to enlarge the best negatives.

You can also go whole hog and set up a darkroom with an enlarger. This is expensive, time-consuming, and of course you have to have the room. However, it will give you a great deal of control over what goes into your picture, how it will appear, and of course, when it will be delivered. These are very important considerations.

If you feel that photography can help your workshop sales, there are a number of good books on the subject. Check your local library or book store. One particularly good one is *The Amateur Photographer's Handbook* by Aaron Sussman. There are also several magazines on the subject that will provide very worthwhile reading. In addition, many college and adult-education programs offer photography courses during the year.

Restoring Antiques

by John Olson

Restoring a Walnut Coffee Table

I recently completed the restoration of a lovely walnut coffee table, an unusually fine piece, with excellent proportions and various intricately detailed carvings. It came to my shop in rather sad shape, having received a pretty severe licking at the hands of interstate movers. A leg was broken, part of the carved pie crust edging was knocked off, and there were a variety of dents and scratches. Luckily the owner managed to find several of the small broken pieces, making the overall restoration a reasonably straightforward job.

The table legs were gently curved to form a knee in the French Provincial style, then tapered down in reverse curve to doe feet. The leg was broken at the knee and to repair it required some special blocks to make the clamp stay in place and to hold the broken pieces in their proper relation to one another. Sketch number 1 illustrates these curved and slotted blocks. It's a pretty good trick to hold two blocks, two pieces of leg and a clamp - all in their proper locations while the clamp is tightened. A couple of pieces of masking tape can be used to temporarily hold the blocks as the clamp is being applied.

The same technique was used to glue the broken piece of the pie crust edge. In this case one block was carved to fit the upper edge of the broken piece and a triangular block was cut to fit beneath and between the top of the table and the lower outer edge. This point is illustrated in sketch number 2. The clamp and blocks had to be aligned with the centerline of the broken piece so that the direction of pressure was at right angles to the joint. The lower block had to be cut to accomodate these requirements. A good grade of epoxy glue especially formulated for wood was used. Excess glue was carefully cleaned off with lacquer thinner before the glue became tacky.

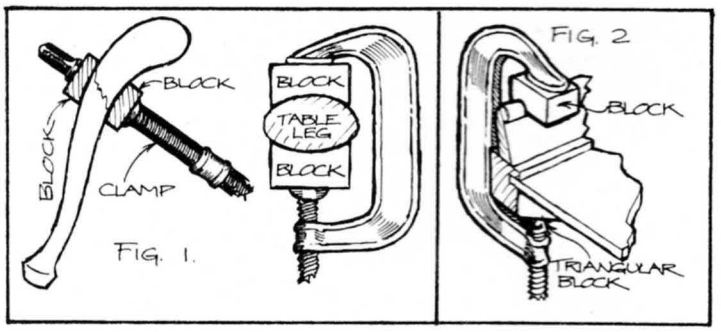


FIG. 1.

FIG. 2

Most of the dents were removed by steaming them with an old electric flat iron and a piece of moistened flannel. By using just enough of the wet cloth to cover the dent and applying the point of the hot iron, I was able to raise most of the dents. However, two of them were stubborn and required that the finish be removed before the wood fibers could be steamed enough to raise the dent.

The next step was to use 220 grit aluminum oxide sandpaper to smooth the areas of damage. Care was taken to taper the old finish for a distance of a ¼ inch or so. This operation requires patience and care and should be done so that your finger tip can detect no roughness or ridges in the sanded area. The finger tip can detect something like 1/25000th of an inch so any uneveness that can be felt will be apparent when the final finish is applied.

The joint in the repaired leg left a hairline crack that widened perceptibly in several places. These spots were filled with plastic wood compound and sanded as described above. To effectively hide the crack and to bring the other sanded areas to a color match with the existing finish, a little burnt umber was used. I have an old tube of burnt umber that has been kicking around in my paint cabinet for years. It is almost hard. A fine artist's brush moistened with turpentine picks up enough color from this hardened material to be just right for color matching. The raw wood areas can be effectively colored and as the edge of the damaged area is approached the color can be thinned. A small piece of soft cloth can be valuable at this stage to wipe up excess color and to lighten areas that are still too dark. Colors applied in this manner should be allowed to dry thoroughly before applying final finish.

I find that a spray can acrylic finish is suitable for this type of repair. It dries quickly and if not applied too generously will level nicely as it is applied. Several thin coats are much better than one thick coat. Every second coat or so should be rubbed down with 300 grit or finer sandpaper, taking care not to cut through to bare wood.

The final stage was to rub down with a very fine steel wool and a good carnauba based wax. I rubbed down the entire coffee table so as to have the same surface texture all over. Using plenty of wax and a whole lot of elbow grease, I obtained a lovely finish.

The Beginning Woodworker

The Plain Rabbet-Miter Joint

Although there are many good methods for joining the sides of a case, box or drawer, most of us tend to pick a method of joinery and stick to it. Sometimes though, we find ourselves in a situation where a joint is needed that will overcome a special problem or provide a unique effect.

Let's suppose that we need to join the parts of a small case in such a way that no end grain shows at the corners. This situation might occur when the case is to be veneered and we want to avoid the possibility of the joint "telegraphing" or showing through the thin veneer. Or perhaps we just want to see a smooth unbroken flow of a distinctive grain around a corner. Whatever the reason, chances are some form of miter joint will fill the bill.

Now we all know that simple miter joints are great for joining flat members such as used for picture frames, or as applied trim on cabinet fronts. In carcase construction however, simple miter joints lack strength and are a real problem to assemble and clamp up. Splined miter joints are stronger but still require clamping in both directions.

Fortunately, there are a couple of joints which have the advantages of the miter's clean appearance but are stronger and easy to assemble and clamp up. The first of these joints which we will consider is a hybrid beteen the miter and a rabbet and, naturally enough, it's called a plain rabbet-miter (Fig. 1). This joint can be used with either solid stock or plywood.

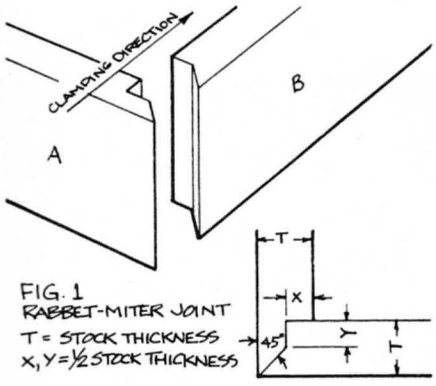
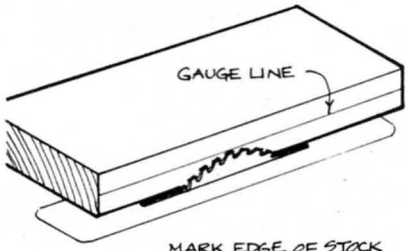


FIG. 1
RABBET-MITER JOINT
T = STOCK THICKNESS
X, Y = ½ STOCK THICKNESS

Cutting the joint really requires a table saw...it's just not practical to make them by hand. Nevertheless, it is an excellent joint for most carcase applications and well worth mastering and adding to your joinery "vocabulary".

Before attempting to cut this joint, you are urged to accurately lay it out on scrap stock of thickness equal to the wood you'll be using for your project. Make each machine set up and run a test cut on scrap first. Accuracy is very critical with this joint so get your act together and make up your mind to work as carefully as you possibly can when setting the fence and blade for each cut.



MARK EDGE OF STOCK FOR ½ THICKNESS AND SET BLADE HEIGHT TO THIS LINE

FIG. 2
SETTING BLADE FOR 1ST CUT

To cut the plain rabbet-miter, first mark a center line down one edge of a piece of scrap of equal thickness. Then use this piece as a gauge to set the sawblade projection to half the stock thickness (Fig. 2). Make a test cut on the scrap stock to verify the setting.

Now set the rip fence so the distance from it to an *outer* tooth of the blade is equal to the *full* stock thickness (Fig. 3). This setting represents the thickness of the stock less the kerf of the blade.

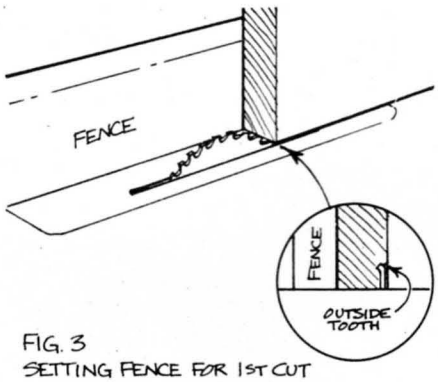


FIG. 3
SETTING FENCE FOR 1ST CUT

Next, place one of the workpieces (it doesn't matter which but for this example we'll call it piece A) against the miter gauge (set to 90 degrees) and butt the squared end against the fence. Make one pass over the blade to cut a narrow dado that is as deep as half the stock thickness (Fig. 4).

Make a second cut but with the piece pulled away from the fence so that the second cut is slightly more than halfway to the end of the piece (Fig. 5). Then just make repeat passes over the blade to remove the material between the first and second cuts.

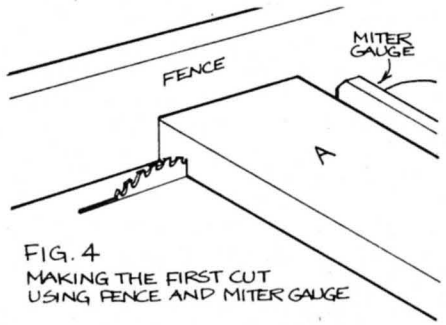


FIG. 4
MAKING THE FIRST CUT USING FENCE AND MITER GAUGE

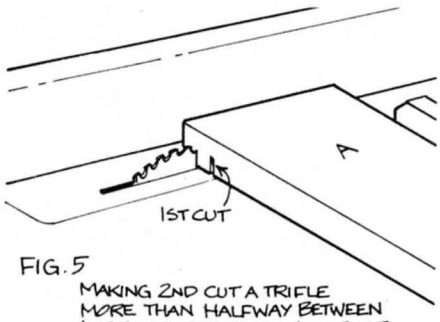


FIG. 5
MAKING 2ND CUT A TRIFLE MORE THAN HALFWAY BETWEEN 1ST CUT AND END OF WORKPIECE

The piece just cut is now stood on end and the fence is reset so that an *outer* tooth (away from the fence) of the blade is aligned with the bottom of the dado (Fig. 6). In other words, the distance from the fence to an outer tooth is exactly half the stock thickness.

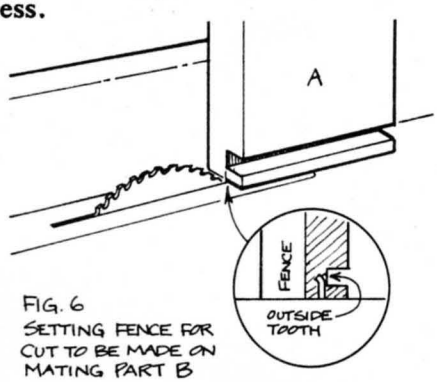


FIG. 6
SETTING FENCE FOR CUT TO BE MADE ON MATING PART B

The blade height remains unchanged for the next cut which is made on mating part B by butting the squared end against the fence and again using the miter gauge to pass the piece over the blade (Fig. 7).

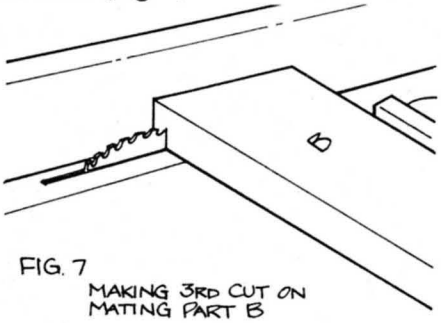


FIG. 7
MAKING 3RD CUT ON MATING PART B

Beginning Woodworker (cont'd)

The last machine setting involves laying the blade over to 45 degrees; check the angle by cutting a piece of scrap. The miter cut is made first on piece B again using the miter gauge.

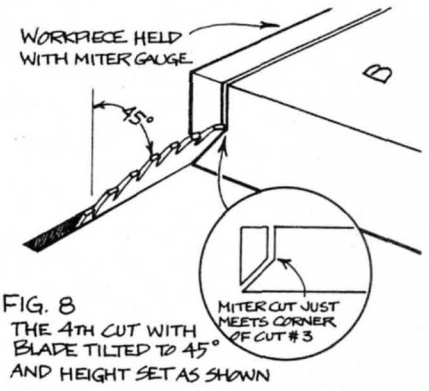


FIG. 8
THE 4TH CUT WITH BLADE TILTED TO 45° AND HEIGHT SET AS SHOWN

Align the piece with the blade so that a corner of an outside tooth just meets the inside bottom corner of the kerf previously cut (Fig. 8). This means you'll have to adjust the blade height. Again, try the cut on scrap, raising the blade a bit at a time until the setting is perfect.

Piece B is now complete and all that remains is to make the final miter cut on piece A using the miter gauge to bring the piece in line with the blade so that an *outside* corner of a tooth bisects the corner of the workpiece (Fig. 9). The blade height for this cut is not as critical as for the previous cut.

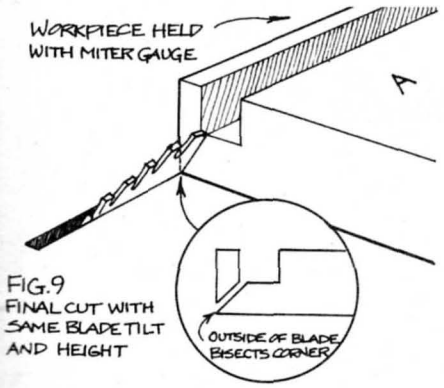
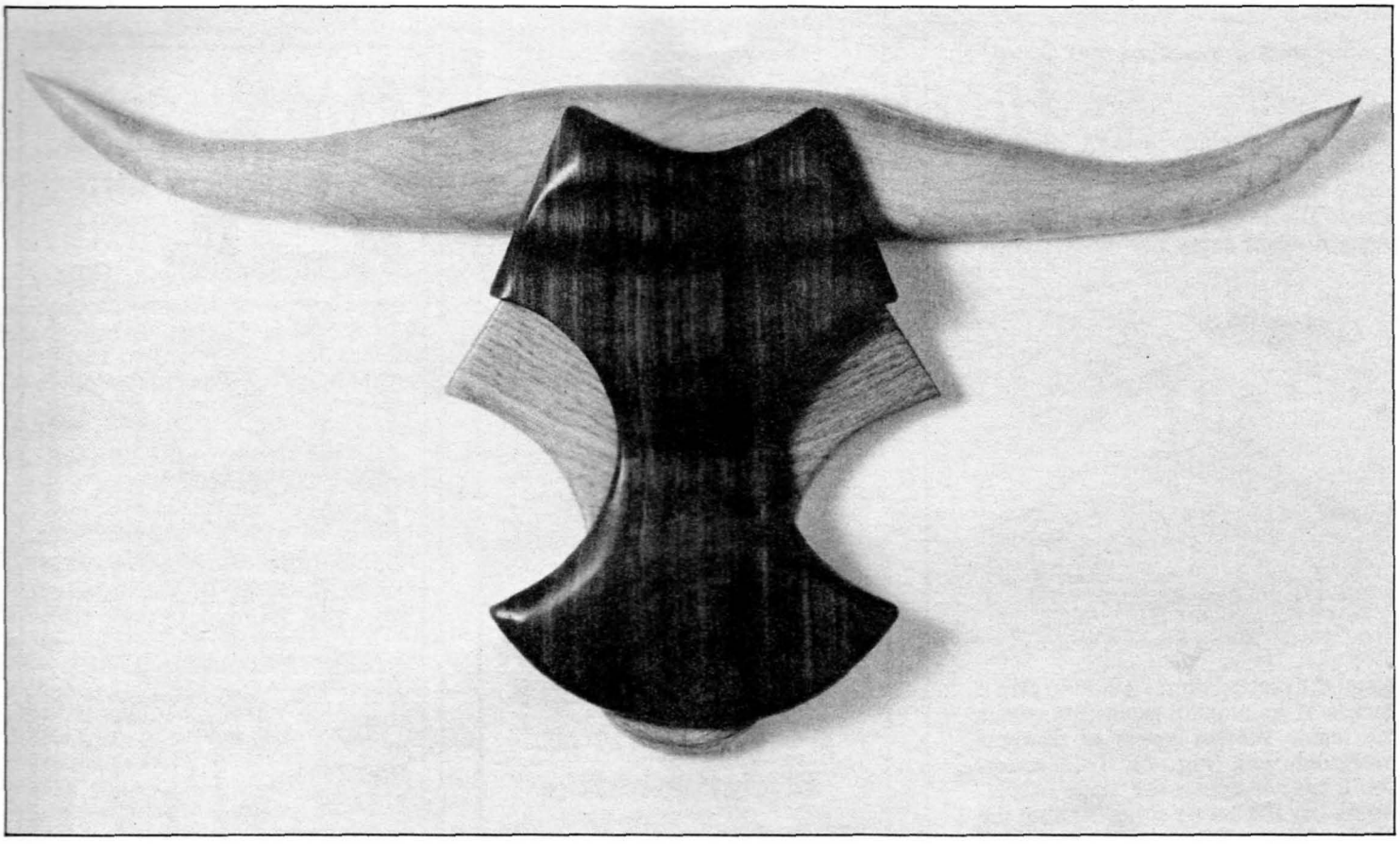


FIG. 9
FINAL CUT WITH SAME BLADE TILT AND HEIGHT

The joint is now complete and the two pieces should mate perfectly. If not, try to analyze where you went astray and repeat the procedures with scrap wood until you can crank this joint out without problems. When you've mastered it, it's a sweet joint to assemble and contemplate.

Incidentally, by following the procedure just given, this joint will automatically be cut in the same proportions regardless of whether the stock is 1½ or ⅜ inches thick.



Longhorn Steer

by Ted J. Pagels

There's no denying that the "Western Look" is in vogue - complete with boots, jeans, Stetsons, and of course, those bone-jarring mechanical bulls. It seems appropriate, therefore, that *The Woodworker's Journal* should offer a project that's right in tune with the times. Made from oak, walnut, and maple, this most unique wall plaque will make a handsome addition to your family room, den, or perhaps over the bar.

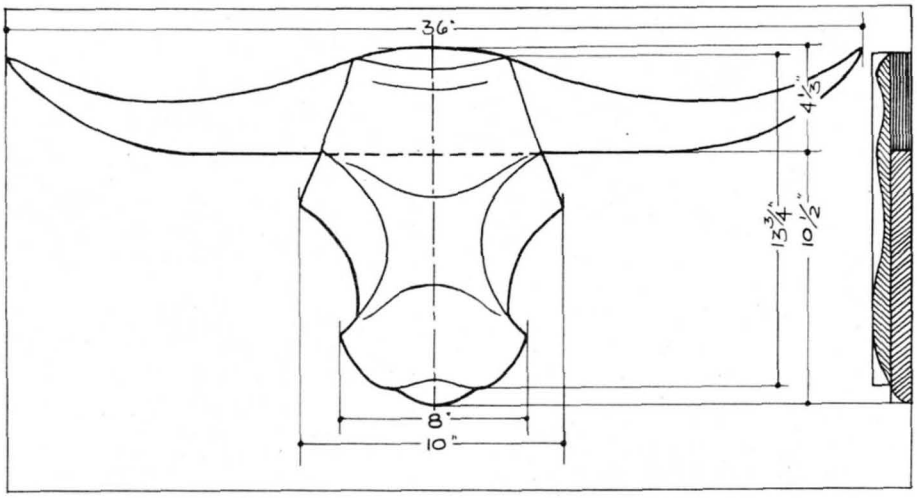
Basically, the plaque is made from four parts - a maple horn, a walnut face, and two oak back section halves. All stock is 1" nominal thickness (actual 13/16").

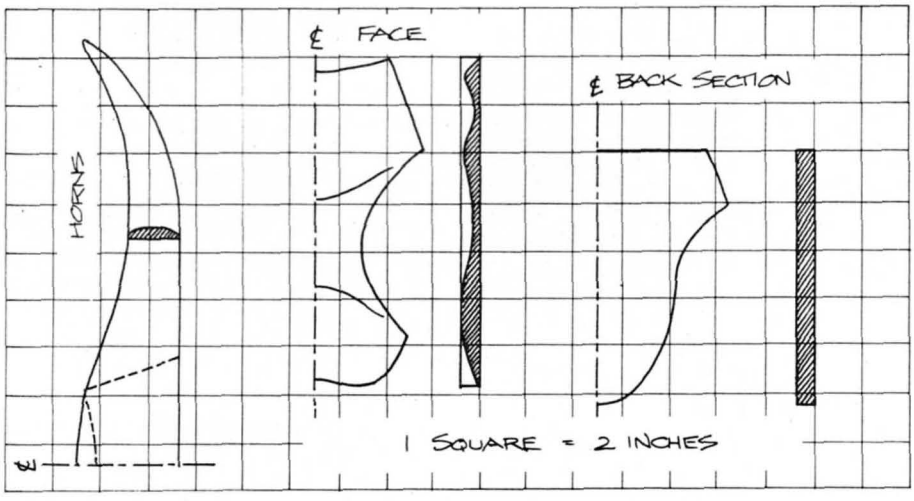
Cut the maple horn to overall length and width, then use a saber or band saw to cut the front profile shown. Shape the cross-sectional profile using a rasp and/or a Surform tool. Further smooth with a file and sandpaper.

Referring to the sketch, cut the walnut face to the front profile shown. Use the saber and band saws to make the cut. Again use the rasp and Surform tool to shape the cross-sectional profile. Sand smooth.

Stock for the oak back section half is cut with the grain at 45 degrees. Cut both halves, then edge join with glue. When dry, cut to the front profile shown. Sand smooth.

Use wood screws to attach the horn and back to the face. Give the entire piece a very complete sanding, as good smooth surfaces are most important with a project like this. Finish with two coats of polyurethane followed by a rub down with 0000 steel wool. A light coat of lemon oil completes the piece.





Bike Rack

Made from standard 2 x 4 construction lumber and dowel stock, this sturdy rack will hold as many as eight bicycles. It's designed to fit most any size bike, from the 26″ 10-speeds to the variety of smaller kid's models.

Two pieces 8 feet long will provide all the 2 x 4 stock that's needed. From each length cut two 28″ pieces (for the frame) and one 39″ piece (for the base). Try to pick out lengths that have a minimum of warp.

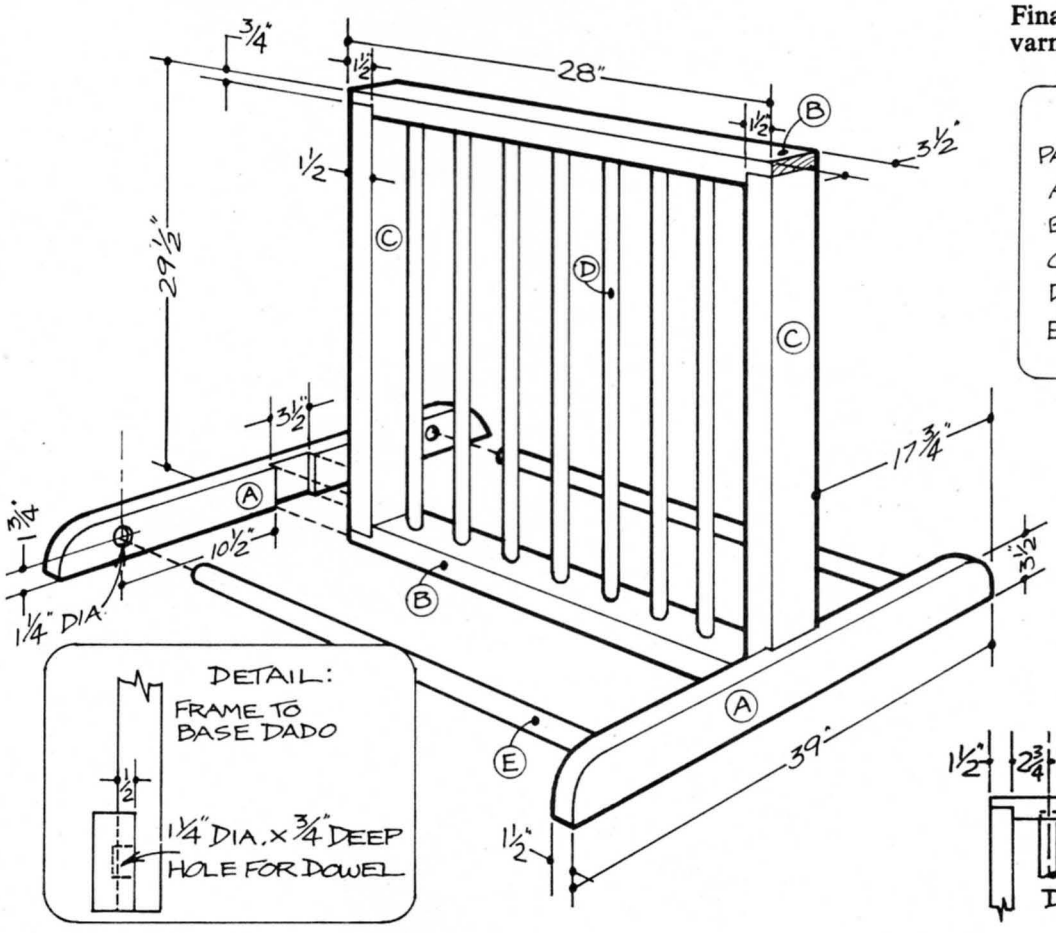
The seven frame dowels are 1″ dia. and cut to 28″ lengths. The two base dowels are 1¼″ dia. birch dowel stock (available from Woodworks, P.O. Box 79238, Saginaw, TX 76179) and cut to 28½″ lengths. Again, look for stock that's reasonably straight.

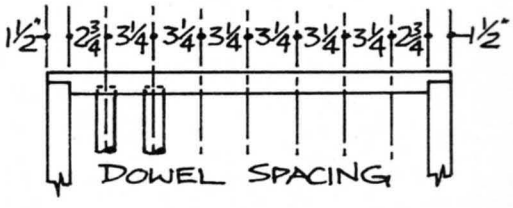
A rabbet is cut on both ends of the frame top and bottom and 1″ dia. dowel holes are drilled as shown. Also drill 1¼″ dia. x ¾″ deep dowel holes in the 39″ long base ends.

If the rack is to be kept outdoors, use a water resistant glue such as Weldwood Plastic Resin. Assemble the frame first. Apply glue, then clamp firmly with pipe clamps and allow to dry. The base, including the two 1¼″ dia. dowels, is added next. For a permanent joint, apply glue and clamp securely. If you expect to move someday, and would like to be able to disassemble the rack, a pair of lag screws on each end will do the job nicely. Final sand, then finish with paint or varnish as desired.

BILL OF MATERIALS

PART	SIZE (INCHES)	QUANTITY
A	1½ x 3½ x 39	2
B	1½ x 3½ x 28	2
C	1½ x 3½ x 28	2
D	1″ DIA. x 28″ DOWEL	7
E	1¼″ DIA. x 28½″ DOWEL	2





Miniature Empire Chest

by Thomas A. Gardner

This lovely miniature chest came from an old family estate. Its style, construction, aged patina and old repairs all seem to indicate that it was made during the Empire Period, 1800-1825. It is a choice antique piece. Some call these small chests "salesman samples", but it's just as logical to say they were made for little girls who wanted to play house. Both claims are probably valid.

Most parts of the original chest are made from cherry. The pine drawer fronts are veneered with crotch mahogany. Some trim and the drawer pulls are of rosewood. To simplify construction, we've designed ours to use solid stock for all parts. However drawer fronts can be veneered if you prefer. Just keep in mind that it's usually a difficult job to veneer reverse curves such as found on the upper drawer front (T), especially with crotch veneer.

First, the front posts (A) and rear posts (B) are made. The front posts are shorter than the rear, but cut all four the same length. This will prevent any error later when "pairing" the two sides for assembly. The grooves and rabbets in all four posts are identical.

Posts (A) and (B) are joined together by a panel assembly, consisting of two side rails (F) and a side panel (I). The grooves in (F) are for the side panels (I) and splines (G). Cut and glue the splines to the rails, thus forming tenons to fit into the post grooves. Assemble (F), (I) and the posts for a trial fitting. Check for squareness. If right, glue and clamp and again check with the try square. The panels must be free to move so don't glue them in place. Parts (M) serve as both runner and drawer guides. They are fitted and glued into the rabbets of the front and back posts as shown. After the glue has set, reinforce with 1" brads.

The drawer rails (K) can now be made. Cut a tenon in each end to fit into the ⅛" grooves of the posts. The ⅛" back panel (H) is cut from glued up strips of resawed pine, or ⅛" plywood may be substituted. For a trial fitting, assemble the rails and back with the sides. Check for squareness. If right, glue, clamp and again check for squareness. Part (J) is made with a tenon at each end to fit the grooves in the pilaster block (C). Assemble, then glue and clamp to the front posts.

Use ½" squares to make a pattern for the pilasters (D). Trace onto the work, then cut out on band or jig saw. Glue and clamp to the front posts after sanding. Note that the pilasters (D) are narrower than the posts in order to keep the drawers from binding on them. The feet (E) are also prepared from a pattern made from ½" squares. Cut out and smooth, then glue to the bottom of the posts. After the glue has set, 1" brads are driven into the posts for reinforcement.

Construction of the top completes the carcase. It is resawn to ⅜" from thicker stock. To make the resawing easier, cut it from two narrower widths, gluing up later. This will require some planing and sanding. A 1" brad into each corner post will hold the top securely. The original has square nails.

The upper drawer is made next. Although the front (T) can be made from flat stock, the curved profile is a nice detail and provides a distinctive look. The concave portion of that profile can best be formed by making a coving cut using the table or radial arm saw. After the concave shape is formed, the convex portion can be cut to rough shape with a hand plane. Finish shaping with a curved cabinet scraper and sandpaper, then cut to finish length. The lock is optional.

The middle and lower drawers are identical. Cut all parts to size using the bill of materials as a guide. Make a trial fitting of the front, sides, and back. If all look o.k., glue together, check for squareness, and insert into chest for fit. After the glue has set, fit the bottom and again check. Use brad to fasten to the bottom of the back.

The proper preparation of the wood surfaces is the secret to a top grade varnish finish. First, sand all surface parts before assembly, then give a final sanding and steelwooling after the assembly. Before applying the varnish (and between coats) dust the piece with a tack cloth. Thoroughly sand the first coat with #220 or #340 and steel wool #0000. For any additional coats sand lightly between with #600 wet or dry. Then steelwool and wax. However, for the final coat it is recommended to wait 48 hours for its treatment. The varnish will be harder and the finish nicer.

Bill of Materials-All Dimensions Actual

Part	Description	Size	No. Req'd	Part	Description	Size	No. Req'd
A	Front Post	13/16 x 1¼ x 10¾	2	M	Drawer Guides	¾ x ¾ x 5	6
B	Rear Post	13/16 x 1¼ x 12⅜	2	N	Top	⅜ x 7 x 13	1
C	Pilaster Block	13/16 x 1¼ x 4⅜	2	O	Drawer Front	½ x 2⅜ x 10	1/Dwr.
D	Pilaster	1 x 1¼ x 6⅜	2	P	Drawer Sides	¼ x 2⅜ x 5¼	2/Dwr.
E	Foot	1 x 1⅞ x 3¾	2	Q	Drawer Back	⅛ x 2⅜ x 9¾	1/Dwr.
F	Side Rail	⅜ x 2 x 4⅜	4	R	Drawer Bottom	⅛ x 9¾ x 4⅞	1/Dwr.
G	Spline	⅛ x ½ x 1 13/16	8	S	Drawer Pull	See Detail	2/Dwr.
H	Back Panel	⅛ x 10¼ x 10⅜	1	T	Drawer Front	13/16 x 3½ x 10	1
I	Side Panel	⅛ x 4⅜ x 7	2	U	Drawer Side	¼ x 3⅛ x 5¾	2
J	Upper Front Rail	½ x ⅞ x 10¼ (inc. tenons)	1	V	Drawer Back	⅛ x 2⅞ x 9¾	1
K	Drawer Rail	½ x ⅜ x 10¼ (inc. tenons)	2	W	Drawer Bottom	⅛ x 9¾ x 5⅛	1
L	Lower Front Rail	½ x ¾ x 10¼ (inc. tenons)	1				

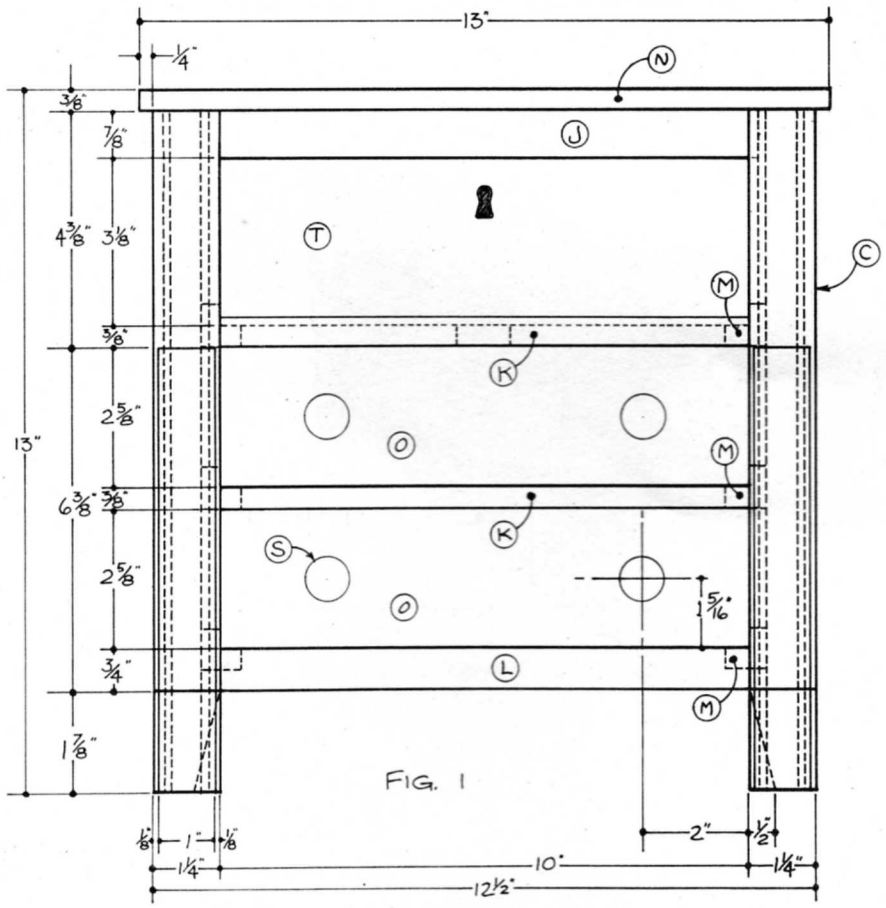

13"
1/4"
N
J
T
C
M
K
O
S
L
1 5/16"
3/4"
1 7/8"
3/8"
7/8"
4 3/8"
3 1/8"
2 5/8"
6 3/8"
13"
1/8"
1"
1/8"
1/4"
10"
2"
1/2"
1/4"
12 1/2"

FIG. 1

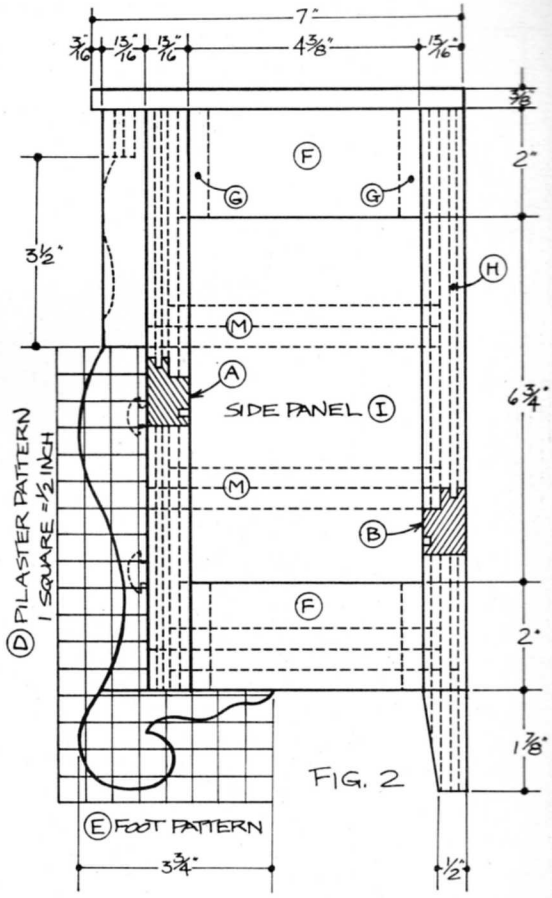
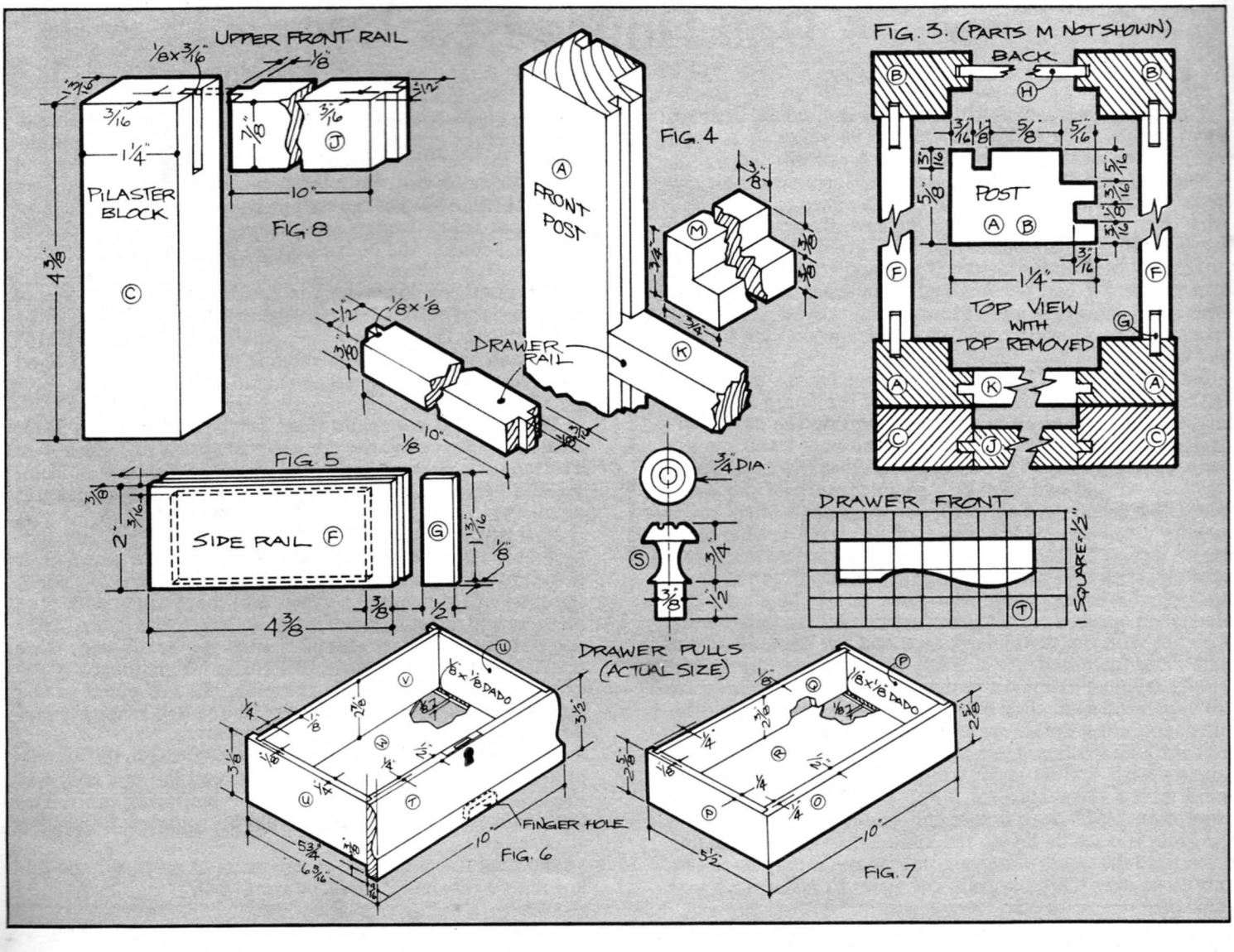
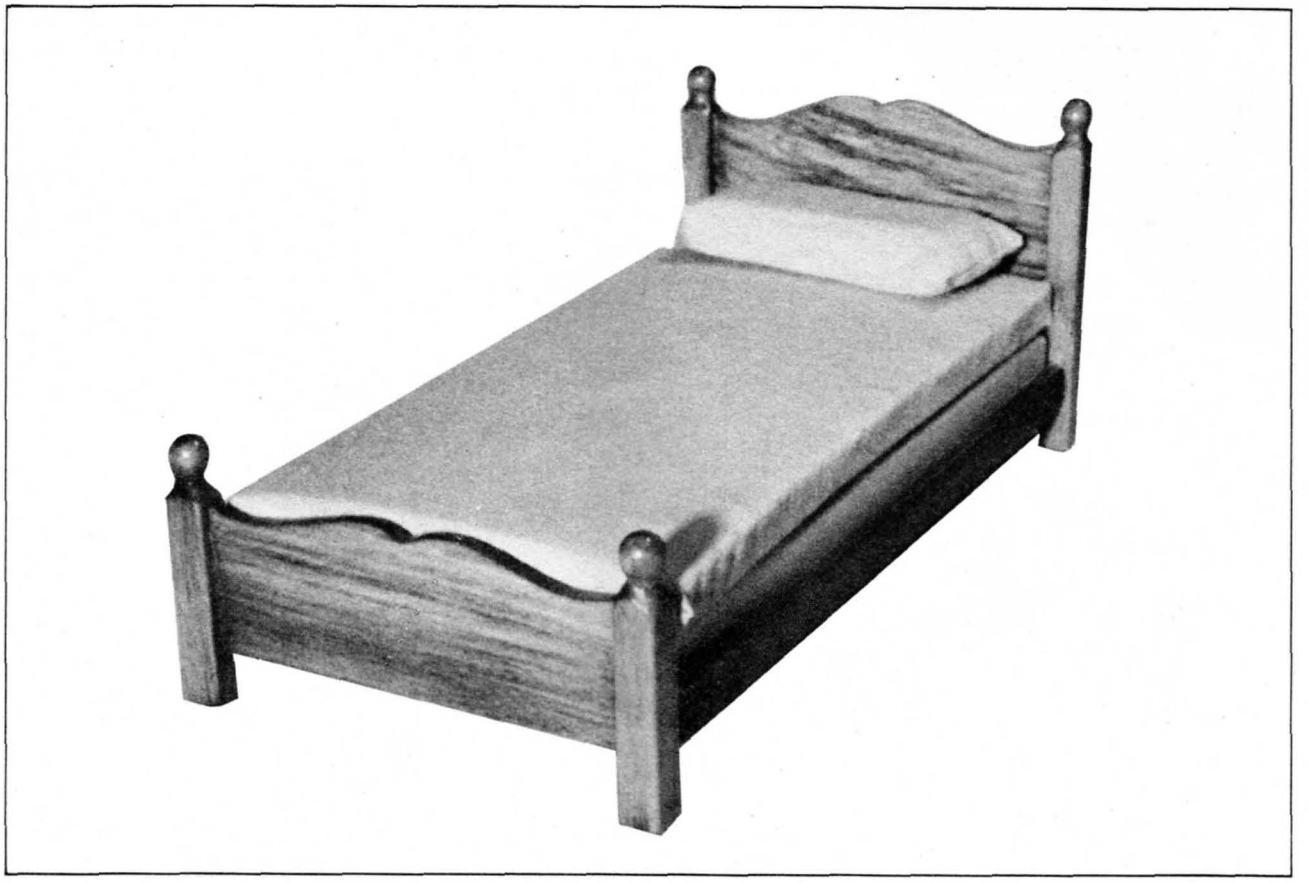

7"
3/16"
15/16"
15/16"
4 3/8"
15/16"
3/8"
F
G
G
2"
3 1/2"
H
M
A
SIDE PANEL I
6 3/4"
D PILASTER PATTERN
1 SQUARE = 1/2 INCH
M
B
F
2"
1 7/8"
E FOOT PATTERN
3 3/4"
1/2"

FIG. 2


UPPER FRONT RAIL
1/8 x 3/16"
1/8"
3/16"
1 1/4"
PILASTER BLOCK
C
4 3/8"
7/8"
J
10"
FIG. 8
A
FRONT POST
FIG. 4
M
3/4"
3/8"
1/2"
1/8 x 1/8
DRAWER RAIL
K
10"
1/8"
FIG. 5
3/8"
2"
3/16"
SIDE RAIL F
G
1 13/16"
1/8"
4 3/8"
3/8"
1/2"
3/4" DIA.
S
3/4"
3/8"
1/2"
DRAWER PULLS (ACTUAL SIZE)
FIG. 3. (PARTS M NOT SHOWN)
BACK
B
H
B
3/16"
1/8"
5/8"
5/16"
POST
A B
5/16"
1 1/4"
F
F
TOP VIEW WITH TOP REMOVED
G
A
K
A
C
J
C
DRAWER FRONT
T
1 SQUARE = 1/2"
U
V
1/8 x 1/8 DADO
1/4"
1/8"
2 1/8"
3 1/2"
3 1/8"
W
2"
1/4"
1/8"
U
T
FINGER HOLE
10"
5 3/4"
6 3/16"
FIG. 6
P
Q
1/8 x 1/8 DADO
1/8"
2 1/8"
2 1/8"
2 5/8"
R
2"
1/4"
1/8"
P
O
1/4"
10"
5 1/2"
FIG. 7



Doll House Bed

by Richard W. Koch

This bed in miniature will fit in any doll house bedroom and be enjoyed by children from 6 to 96 years. It is a collectible item and is ideal for sale to craft and gift shops.

The bed is built from white pine, cut down on a table saw to ⅛" thick. This is not difficult, but be sure to use a push stick to run the pieces through the saw. Remember, these are unusually small pieces, so take great care and keep fingers away from the blade. If you don't want to cut your own lumber, it can be obtained from most any hobby or craft shop. There are many types of woods available in larger craft shops. However, don't use balsa wood - it's too soft and won't take a good finish.

Start construction by cutting the piece for the headboard (A) from ⅛" stock. Make the width of the board 2⅜" (⅛" larger than finished size to allow for cutting the headboard design) and the finish length 3⅛". You may want to make more than one bed, so cut as many of these pieces as desired. Also, at this point, make a paper pattern of the headboard (see headboard pattern). For mass production, or for making only one, place a piece of ¼" wide double-faced carpet tape at the top and bottom of the board. Working accurately, stick the pattern on the tape making sure to line it up with the bottom edge and sides of the headboard. If more than one bed is being made, stick all the headboards together with the doubleback tape and cut them all at one time. The footboard (C) is made in the same way as the headboard (see footboard pattern). (Note: if the pieces are not separated soon after cutting, you may have some difficulty separating the pieces and removing the tape.)

Head and footboard tenons are made by lining up the notches with a steel straightedge and lightly scoring the wood with a razor blade or a #11 X-Acto knife blade, not more than 1/32" deep across the grain. The end cut with the grain is done by laying the knife 1/32" in and pressing down until the waste material comes loose. It may be necessary to go over the crossgrain cut again to make the waste come off.

The construction of the posts (B & D) will require handcarving of the knobs. Draw two lines all the way around the end of the post horizontally, one at ¼" and the other at 5/16" from the end. With the knife, notch the corners from the 5/16" line toward the end at approximately 45 degrees and about 1/16" deep. Keep notching around the post until it is semi-round, and do the same at the top of the post. Finish rounding with sandpaper.

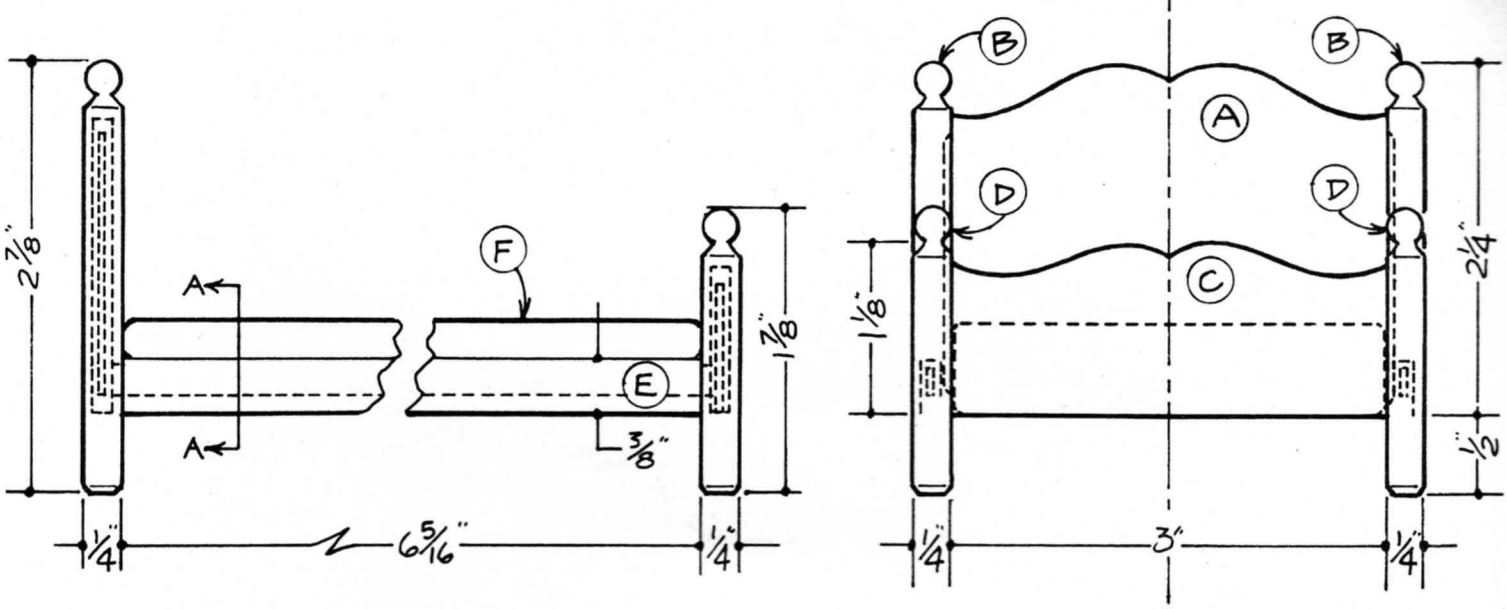
The mortising in the post is accomplished by the use of the Dremel Moto-Tool cutter #198 (which is ¼" diameter by 1/16" thick). This cutter will make the 1/16" wide by 1/16" deep mortise. Be sure to make one left and one right-hand post for both the headboard and footboard (see post details).

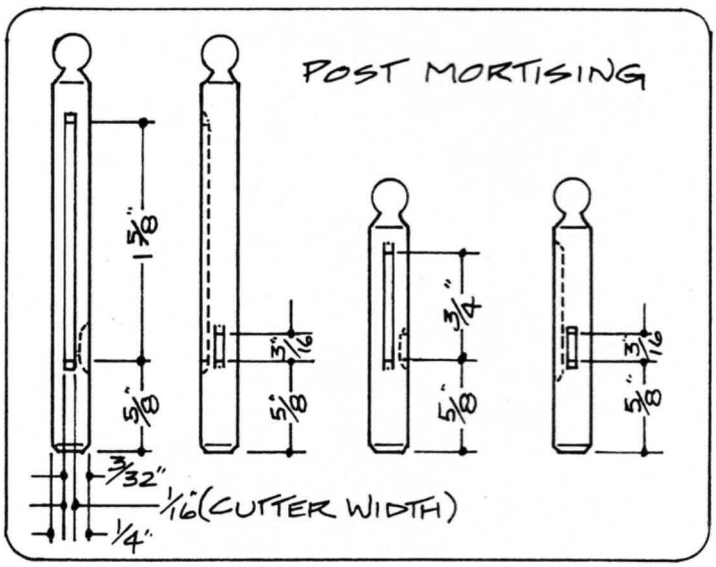
The rails (E) are made from ⅜" square stock, 6-5/16" long. They are cut on the table saw as shown in section A-A. The tenons are cut on both ends as shown in detail B. Note: for safety, cut the inside part of the rails in one long length, about 13½" long, and cut them to length afterward.

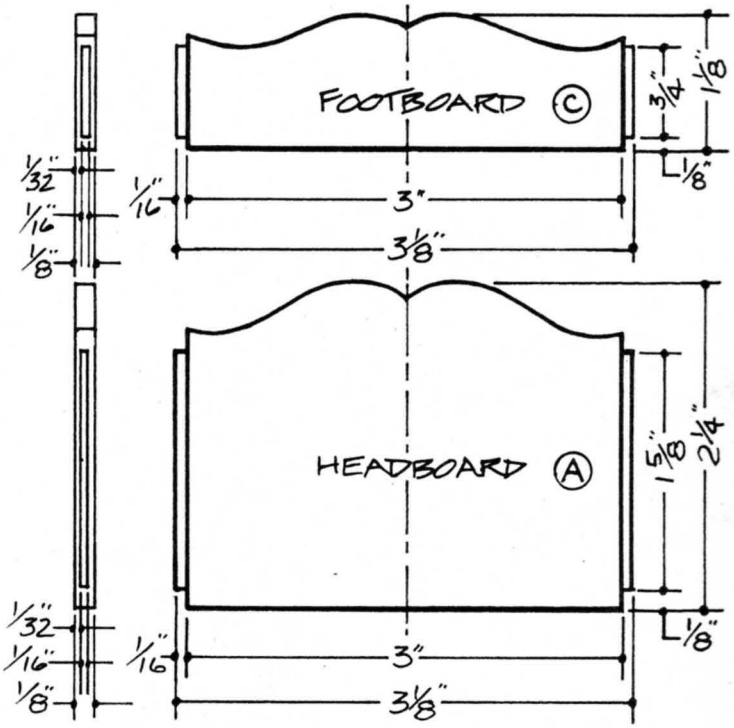
Now that all of the parts have been cut and finish-sanded, assembly can proceed. Because these parts are so small, it is best to stain all parts before assembly. If this is not done, the glue will overrun the joints, and those areas with glue on them will not absorb the stain, leaving white spots. After the stain is dry, start assembly with the headboard. Glue the headboard (A) to posts (B). Next, the footboard (C) is glued to posts (D). Finally the rails, (E) are glued to the headboard and footboard. Square up the bed assembly and let dry.

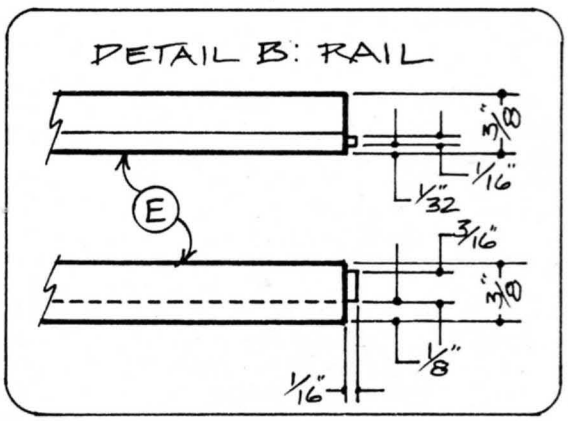
The wooden boxspring (F) can now be fitted to the assembled bed. Measure the distance between the two rails and the head and footboard, then cut the boxspring to fit. The top edges of the boxspring should be rounded to remove sharp edges.

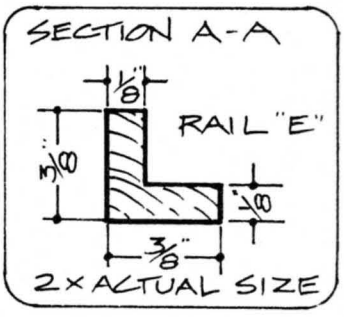
The final finish consists of two coats of polyurethane followed by a rub down with 0000 steel wool.







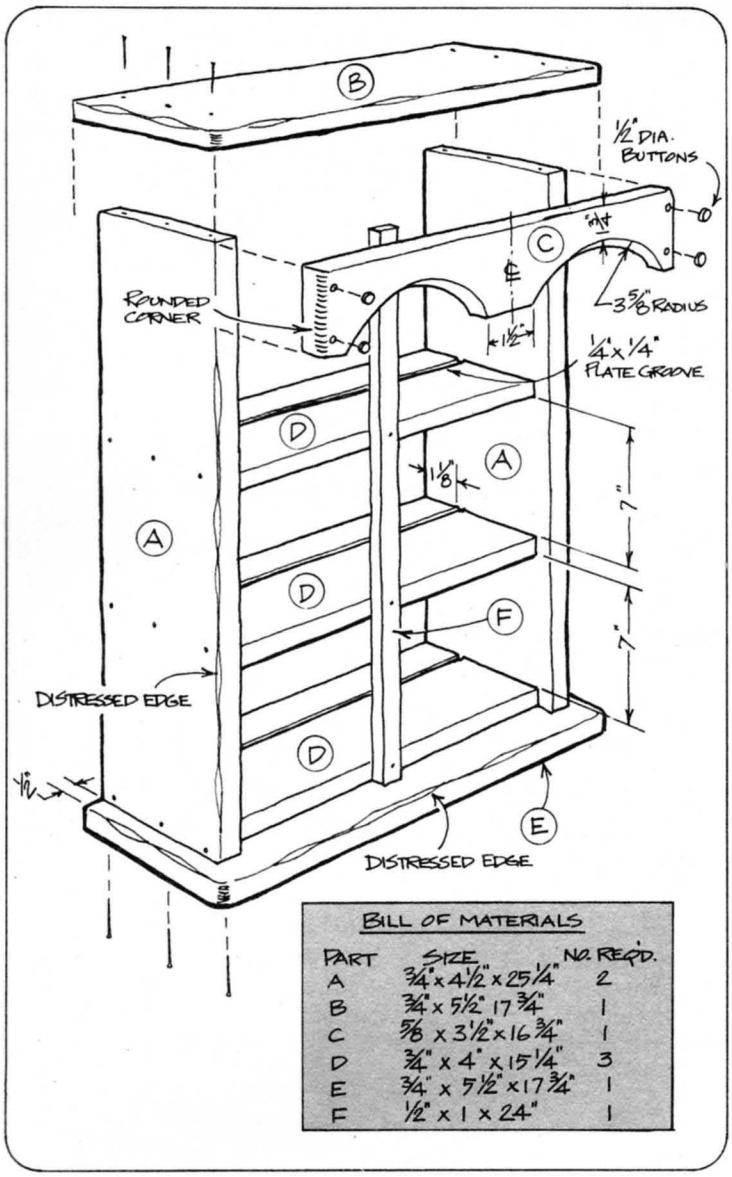




Miniature Bed
Bill of Materials

Part	Description	Size	No. Req'd.	Part	Description	Size	No. Req'd
A	Headboard	⅛ x 2⅜ x 3⅛	1	D	Footboard Post	¼ x ¼ x 1⅞	2
B	Headboard Post	¼ x ¼ x 2⅞	2	E	Rails	⅜ x ⅜ x 6 7/16	2
C	Footboard	⅛ x 1¼ x 3⅛	1	F	Boxspring	½ x 6 5/16 x 3 1/16	1

The Gift Shop



BILL OF MATERIALS

PART	SIZE	NO. REQ'D.
A	¾"x4½"x25¼"	2
B	¾"x5½"17¾"	1
C	⅝ x3½"x16¾"	1
D	¾" x 4" x15¼"	3
E	¾" x 5½"x17¾"	1
F	½" x 1 x 24"	1

Curio Shelves

If care is used in construction and finishing, this simple piece will look very attractive. It can be completed in a few hours by a novice woodworker using only hand tools. Units of this type can be mass-produced easily and are always popular gift items.

Ordinary knotty pine of ¾" thickness (actual) is used for all parts, although parts C and F will have to be planed down. If you use a handsaw, cut the parts slightly wide and plane the edges to the finished width. Remember to sand all parts before assembly and be sure to wipe all glue drips off with a damp rag.

Start by cutting sides A and the three shelves D to size. The plate grooves in the shelves are cut by clamping two straight strips to the shelves with just enough space between to run a handsaw blade. The saw is used to start a straight groove, then the strips are moved a very slight distance to start another groove. A ¼" chisel or gouge is then used to clean up and finish the groove to an equal depth.

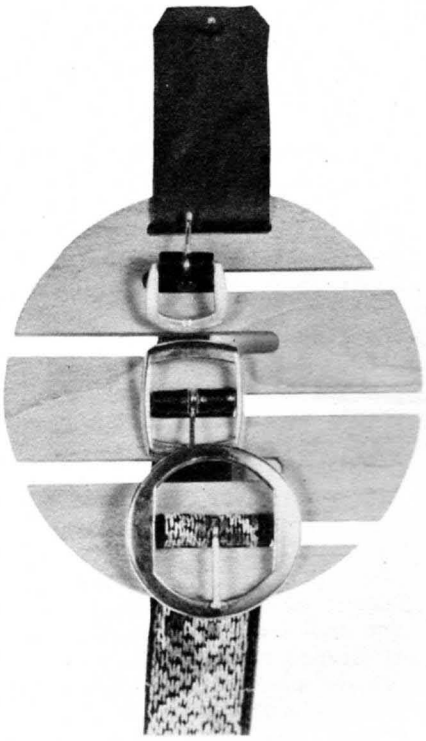
Cut top B and bottom E to size. Coat ends of A with a thin layer of glue and allow to dry. Then spread on another layer and nail top and bottom to sides using 1½" finish nails. The shelves should be inserted when nailing to keep the sides evenly spaced. The top and bottom are nailed flush with back edges of sides with an equal ½" overhang at the ends.

Mark locations of shelves and nail them in place making sure they are level and flush with the back edges of sides. Part C is then cut to size and planed down to ⅝" thickness. Lay out and make the circular cut-outs using a coping or saber saw.

Clamp part C to the edges of sides and butted tightly against the overhanging top. The center divider F is then cut and planed to ½" thickness. This is nailed to the center edge of each shelf and glued and clamped to the back of C. Bore holes in C to take decorative buttons or pieces of dowel to simulate pegs.

A half-round cabinet file is used to distress the outer edges of the unit as shown. Sand all surfaces again with 220 grit paper playing particular attention to smoothing the distressed edges. Stain unit with an oil type stain such as Minwax Early American. Apply stain with a disposable foam brush and use a rag to wipe and spread the stain evenly.

After at least 24 hours, apply two coats of satin finish urethane varnish. When the last coat is dry rub down all surfaces with 4/0 steel wool until an even soft luster is obtained, then polish with a soft cloth.



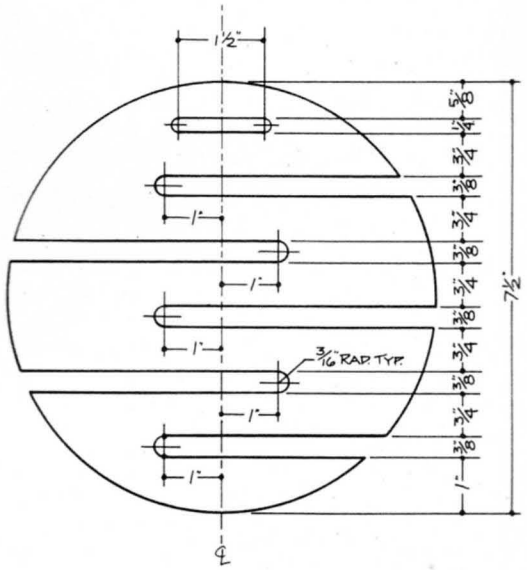
Belt Rack

Here's a convenient way to hold as many as eight of your favorite belts. Slide them into the slots and they hang neatly in place. Made from ⅜" mahogany, it can be hung from the back of a closet door with a finishing nail through the leather hanging strap.

You'll probably have to plane down ¾" or ½" stock to get the ⅜" thickness. After planing, sand smooth, then use a compass to lay out the 7½" diameter. Also, at this time, lay out and mark the location of the slots.

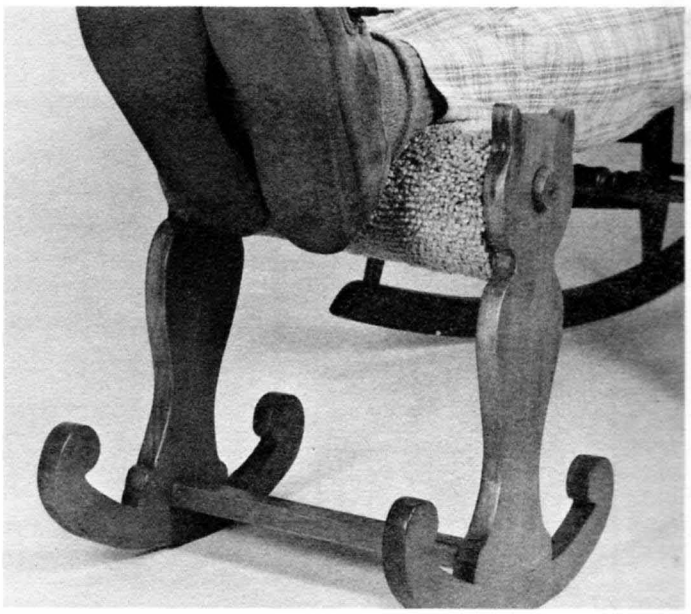
Use a saber or band saw to cut the circle to shape, making sure to cut on the waste side of the line. Carefully sand the edge to remove all rough surfaces. To cut the belt slots, drill five ⅜" dia. holes as shown, then use the saber or band saw to remove the rest of the slot. The leather strap slot is made by drilling two ¼" dia. holes, then removing the waste with a saber saw.

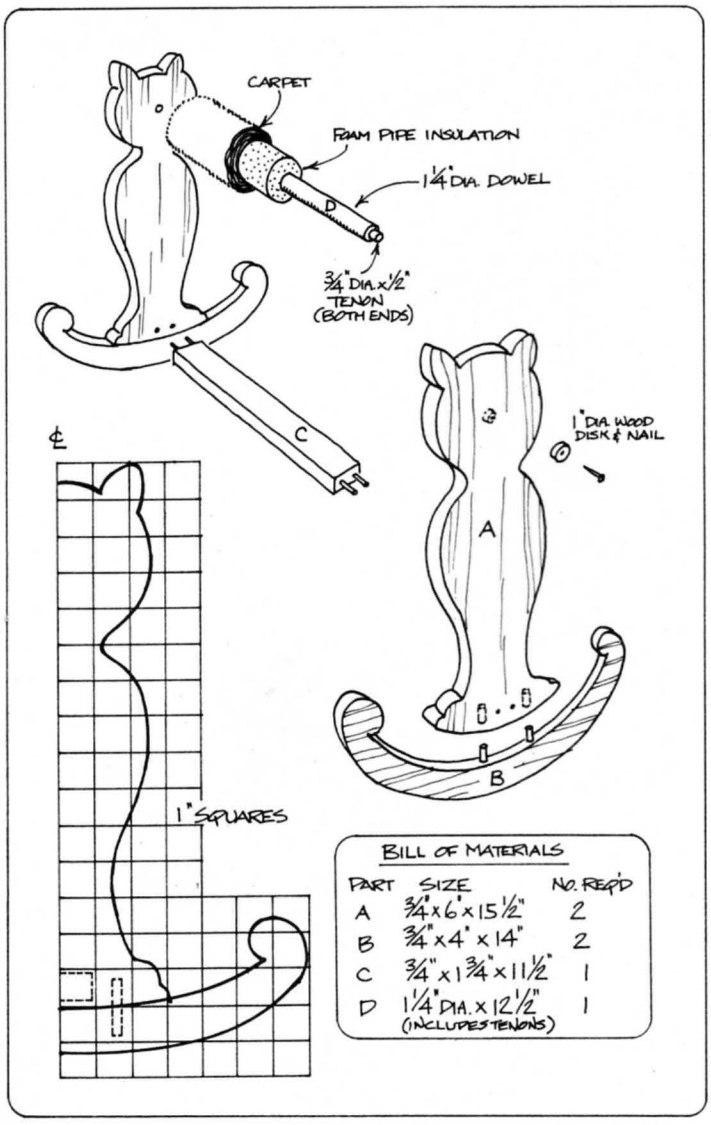
Use a file and sandpaper to clean up the slots. Give surfaces a final sanding before applying Watco Danish Oil as a final finish.



Rocker Footrest

by Henry Diamond





BILL OF MATERIALS

PART	SIZE	NO. REQ'D
A	¾" x 6" x 15½"	2
B	¾" x 4" x 14"	2
C	¾" x 1¾" x 11½"	1
D	¼" DIA. x 12½" (INCLUDES TENONS)	1

What better way to enjoy the comfort of your rocker than to be able to put your feet up as you rock.

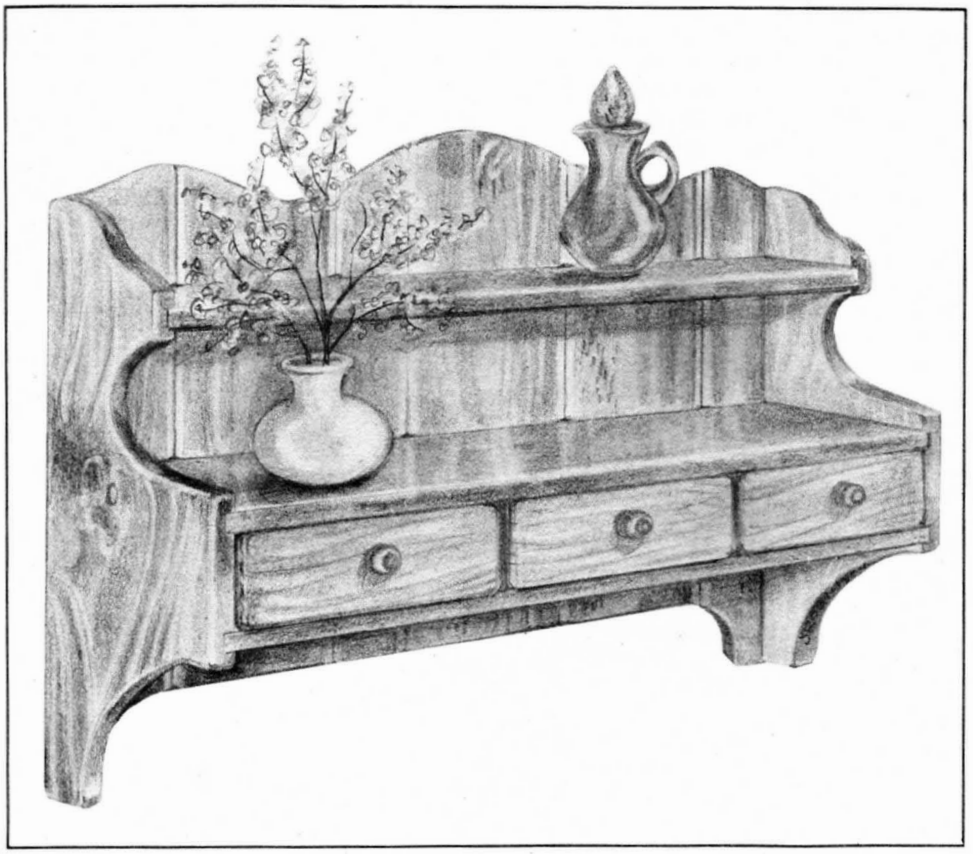
The rockers (B) can be made first. Cut to overall length and width, then lay out and mark the carved profile. Cut to shape with a saber or band saw.

Make the two ends (A) next. Cut to dimensions shown on the Bill of Materials, allowing a little extra for length. Lay out the curved profile shown on the grid pattern. Mark the bottom curve using the rocker (B) as a template.

The stretcher (C) and dowel (D) are next. For the dowel use "closet pole", carried by most lumberyards. A length of foam insulation serves as a cushion. This is covered by a length of carpet which is wrapped and sewn in place.

Sand all parts, then assemble as shown. Use glue and dowels for strength. To cover the dowel tenon hole, a ¼" thick x 1" diameter wood disk is nailed into the tenon.

Early American Wall Shelf



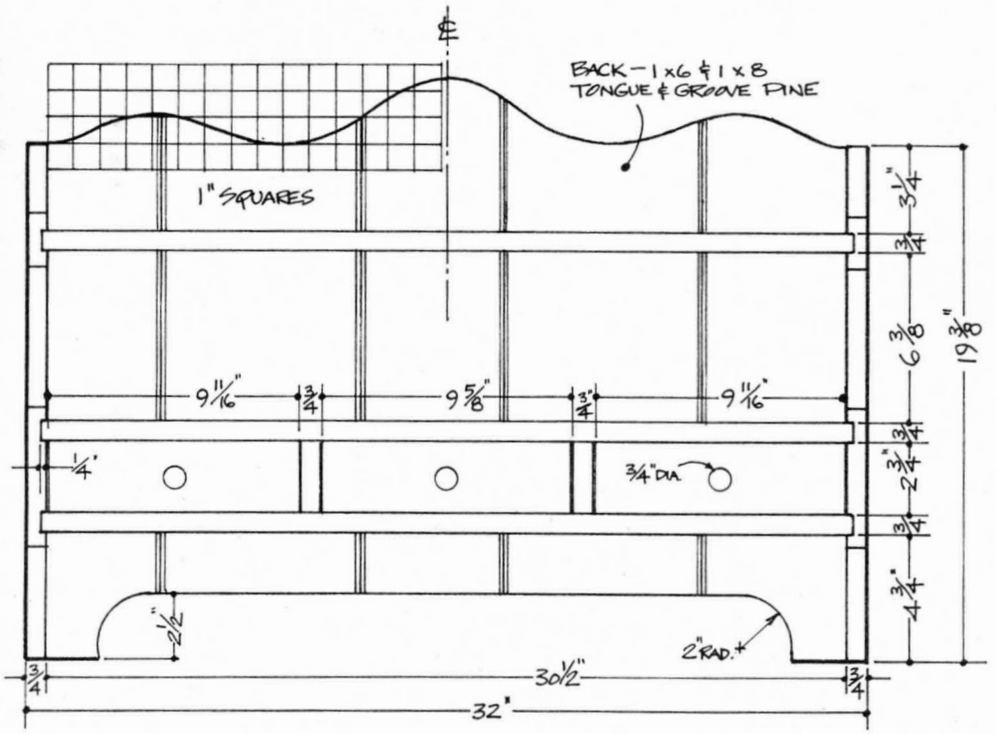
Wall shelves are always popular with our readers and this one should be no exception - especially if you enjoy the flavor of Early American.

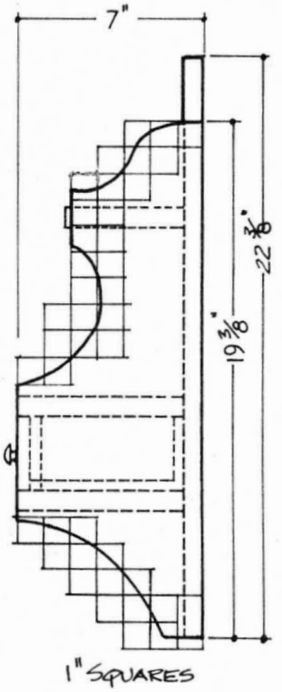
Begin construction by cutting the two sides to length and width. Lay out and mark the location of the ¾" wide x ¼" dadoes, then use the dado head to cut out. This operation can also be done by making repeated passes with the saw blade. Now, referring to the grid pattern, lay out the profile shown, then cut out with the saber or band saw.

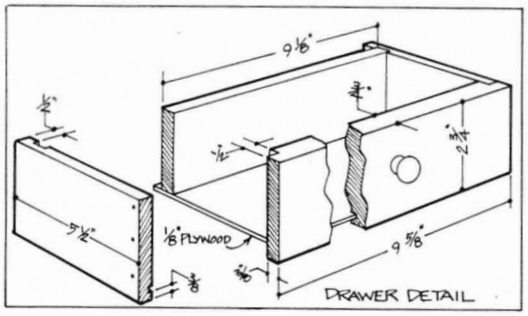
Glue and clamp tongue and groove pine for the back. Transfer the curved profile as shown and cut to shape. Next, cut the three shelves and drawer dividers to size.

Give all parts a complete sanding, then assemble with glue and finishing nails. The three drawers are then made per the Bill of Materials and drawer detail shown. Note the sides and back are ½" stock. A ⅜" x ¾" x 1" drawer stop block is glued to the drawer support shelf. Center it just behind the drawer front.

Use a file to give all edges a good rounding before final sanding. Some well chosen distress marks will add a lot of old charm to new pine. Finish by staining with two coats of Minwax Early American stain followed by two coats of Minwax Antique Oil Finish.

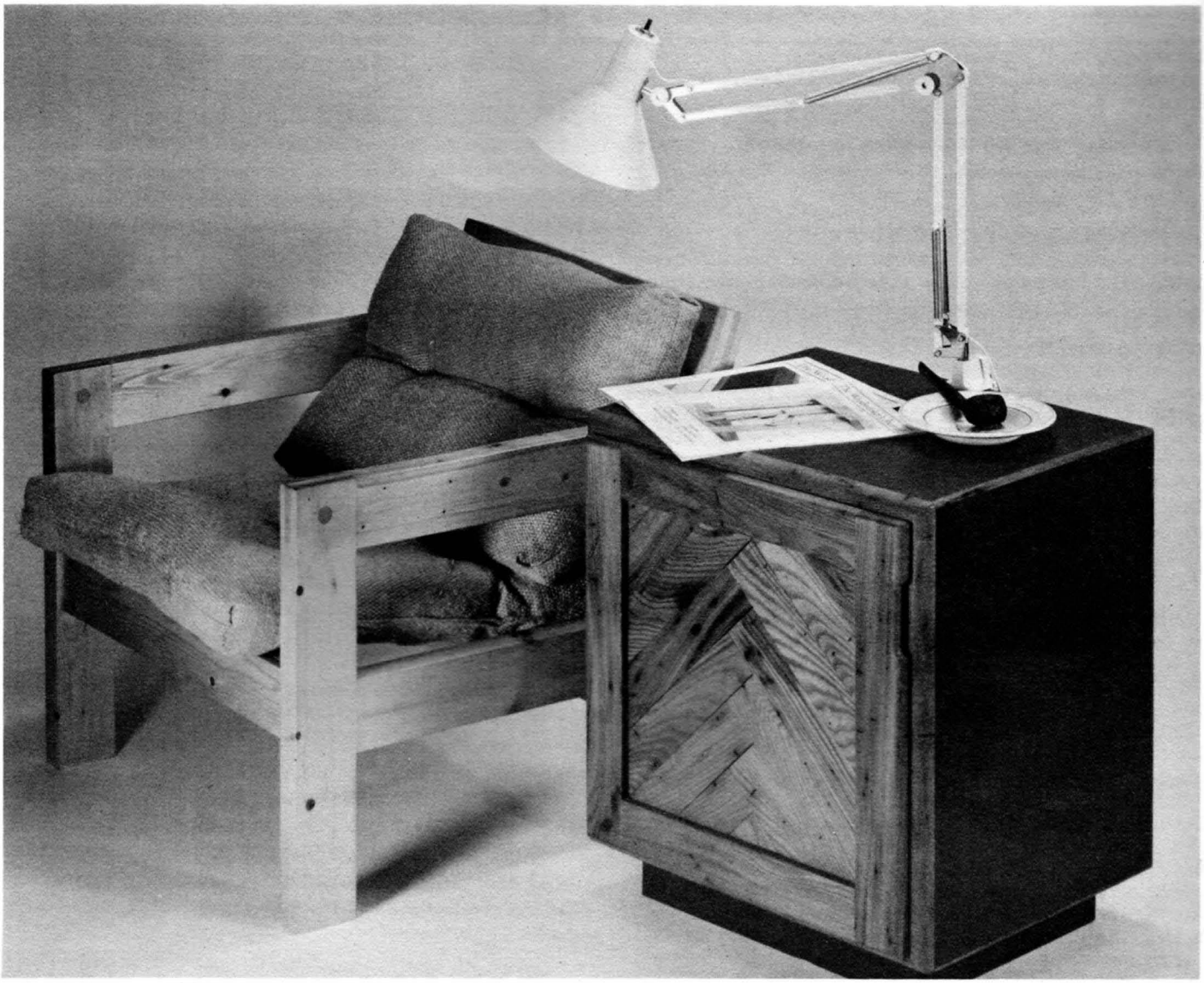






BILL OF MATERIALS
DIMENSIONS IN INCHES

SIDE	¾ x 7 x 19 ⅜	2 REQ'D
UPPER SHELF	¾ x 4½ x 31	1 "
LOWER SHELF	¾ x 6¼ x 31	1 "
DRAWER SUPPORT	¾ x 6¼ x 31	1 "
DRAWER DIVIDER	¾ x 2¾ x 6¼	2 "
BACK	¾ x 22⅜ x 30½	1 "
DRAWER FRONT	¾ x 2¾ x 9⅝	3 "
" SIDE	½ x 2¾ x 5½	6 "
" BACK	½ x 2¼ x 9⅛	3 "
" BOTTOM	⅛ x 5⅜ x 9⅛	3



Multipurpose Cabinet

by Paul Levine

The most reliable construction for cabinets of this type makes use of plywood which is much more stable than solid wood. Using plywood is also a lot easier than forming wide surfaces from a lot of edge-jointed narrow boards.

In addition to plywood, I often use plastic laminates in contemporary style cabinet work. The ease with which laminated surfaces can be cleaned plus the relatively low cost of the material makes this material very much a fact of life in the cabinet shop.

Given these realities, I wanted to come up with a practical design that would also emphasize the beauty of natural wood. By using sound plywood construction for the carcase, covering this with a laminate and then adding a distinctive solid wood front and edgings, I feel I've achieved a compromise which combines practical materials with the appeal of solid wood.

I made two of these cabinets to serve as nightstands flanking a bed but they will serve nicely as end or lamp tables in a contemporary setting. Since I wanted wood to dominate the design, wormy chestnut with its distinctive color, grain and worm holes was chosen for the doorframes, herringbone panel, front trim and edging strips. Almost any fine cabinet wood can be substituted however.

Birch plywood of ¾" thickness was used for the box sides, top and bottom while ¼" birch plywood was used for the back. The drawings show how the five parts of the box are joined. After the box was glued up, the top and sides were covered with 1/16" plastic laminate using contact cement and plenty of pressure with a wooden roller to achieve a good bond. I used a deep rust-brown laminate which harmonizes with the chestnut.

The four corners of the box were then rabbeted with a router to take the square edging strips which break up the plastic surfaces and help keep the chestnut as a dominant material. I used a router with a ⅜" carbide straight bit to cut the grooves taking care to move the router from right to left to prevent chipping of the laminate. After the first pass you can then run the router from left to right to clean up. The wood edging strips are cut slightly larger than ¼" square and glued into the rabbets, then carefully planed flush and rounded off.

The face frame (I,J) is cut from ¾" stock, mitered and butt joined, slightly overhanging the outside edges of the box, with glue and screws which are counterbored and covered with plugs. The slight overhang is then planed flush with the laminate. To mount the face frame (I,J) with good tight joints, pre-drill and counterbore the four members for screws. Fasten the bottom piece first with glue and screws, keeping top edge of frame flush with box bottom. Then hold the next piece of frame along an adjacent edge and use a sharp pencil to mark the screw holes on the box edge. A small drill bit is then used to bore the pilot holes very slightly closer to the piece already fastened. This method will help draw the pieces tightly together when the screws are driven in. Do the other adjacent edge third and the top piece last. In order to pull the top piece miter joints tight, bore the screw holes slightly toward the inside of the cabinet.

To bring the face frame flush with the laminated surface use a sharp plane to shave the frame while resting the plane flat on the plastic. When setting the plane iron bury the corner of the iron that will rest on the plastic. This will prevent gouging.

Don't wipe off glue that has squeezed out of the joints while fastening. This will drive glue into the face of the frame and inhibit the finish. Instead, let the squeeze out form beads and dry. The beads will be easy to scrape or plane off.

The cabinet base can be made up of ordinary ¾" pine, the corners being joined with splined miters. The base can be painted flat black or covered with the black plastic trim sold especially for kitchen counter bases. I do not feel that it's necessary to screw the base to the box; a good glue bond should be sufficient.

The doorframe is joined with mortises and tenons. A ⅜" stopped rabbet is routed around the frame parts before assembly, to hold the door panel. The panel can be handled in a wide variety of ways. The method I chose was to make up an oversize panel of chestnut boards planed to ⅜" thickness and lap joined at the sides and ends. This permits the direct glue joining of both halves of a herringbone pattern without splines. The glued up panel is weighted to keep it flat and when dry is carefully trimmed ⅛" shy to allow for expansion in the doorframe.

The panel is held in place on the back of the door with four battens or retainers (N) which are simply butted and screwed in place. These retainers should be cut and located after the hinges have been temporarily mounted. The door is hinged to glued-in hinge blocks inside the case which bring the hinges out flush with the face frame. The hinges are full-overlay, self-closing concealed types which are adjustable after installation. Instructions for mounting are included and these hinges are now available through most mail-order firms that carry cabinetmaker's supplies.

The batten (N) adjacent to the hinges will have to be located and notched to provide clearance for the hinge arms when the door is closed. Also, the door frame must be mortised with a Forstner bit as shown in the hinge detail to take the hinge cups.

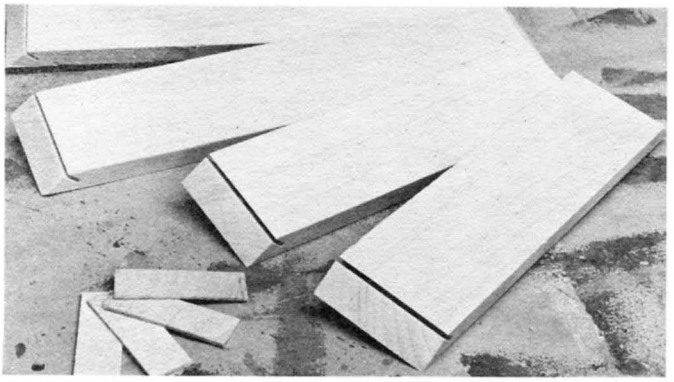
To form the door pull, rout the back of the door frame 2½" from the top with a ½" cove bit. This cut can be made to suit or 3½" long as shown. Next, round the face of the doorframe with a ¼" quarter rounding bit. Run the bit all around the frame except where the cove cut was made.

Set the router against the frame edge near where the pull is to be and mark where the router base lies when the bit guide bearing is against the side of the frame. Clamp a straightedge 3/16" away from this mark and rout the part of the frame face in line with the cove on the back.

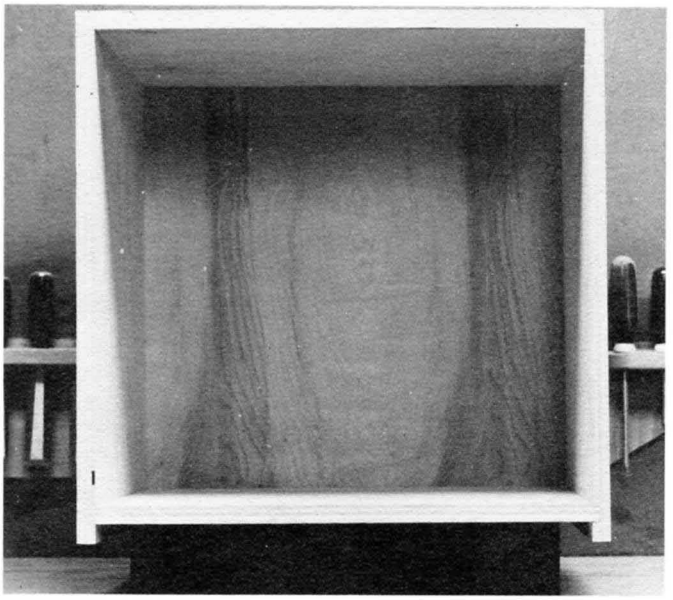
The final step is the screw mounting of ¼" x 1" mitered strips (F) around sides and top back of cabinet. These add to the design and cover the exposed dadoes. They are also handy for clamping on a nice adjustable reading lamp. The cabinet (and most of my other work) is finished with several coats of Watco Danish Oil.

Bill of Materials (All Dimensions Actual)

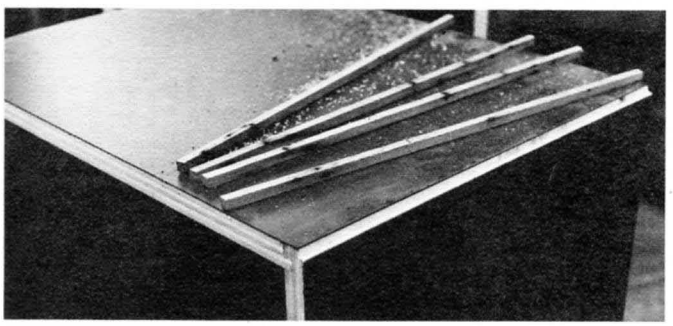
Part	Description	Size	No. Req'd
A	Side	¾ x 16⅞ x 21	2
B	Bottom	¾ x 16⅞ x 20	1
C	Top	¾ x 16⅞ x 20	1
D	Back	¼ x 20 x 19¼	1
E	Edging Strip	5/16 x 5/16 x 16⅞	4
F	Back Trim	¼ x ¾ x 21	3
G	Base Side	¾ x 3¼ x 17	2
H	Base End	¾ x 3¼ x 13	2
I	Face Frame Rail	¾ x 1½ x 21	2
J	Face Frame Stile	¾ x 1½ x 21	2
K	Doorframe Rail	¾ x 2½ x 16¼ (Inc. 1" lg. tenons)	2
L	Doorframe Stile	¾ x 2½ x 16¼ (Inc. 1" lg. tenons)	2
M	Door Panel	⅜ x 14⅞ x 14⅞	1
N	Battens	½ x 1¼ x as req'd	4



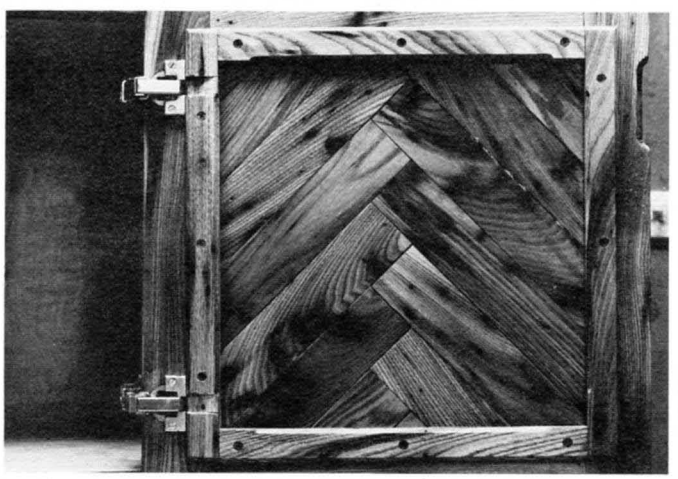
Cabinet base consists of four pieces of pine with ends mitered and grooved for splines.



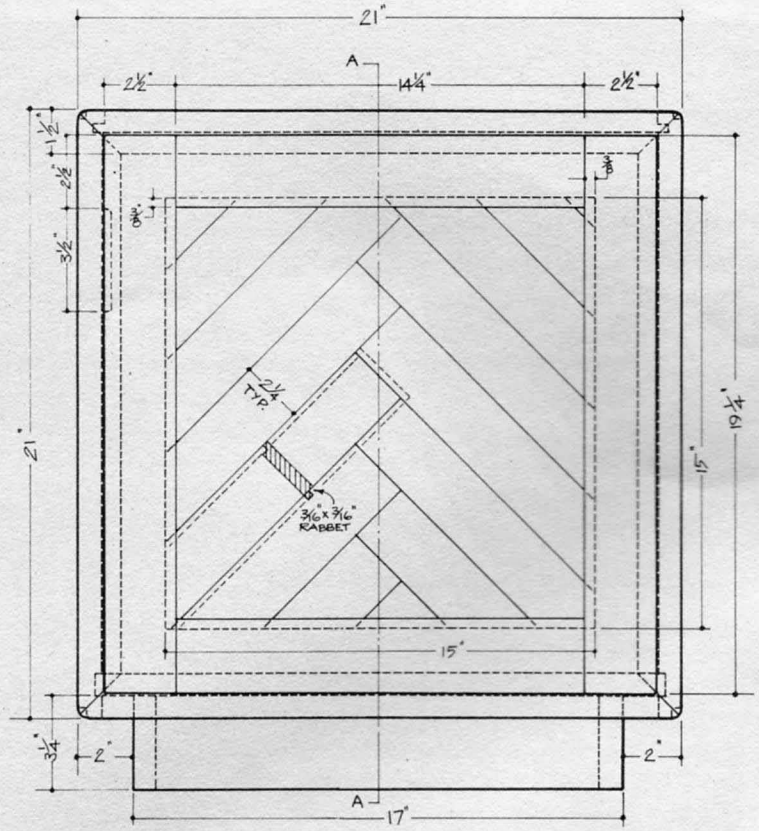
The completed box and base assembly ready to be covered with plastic laminate.

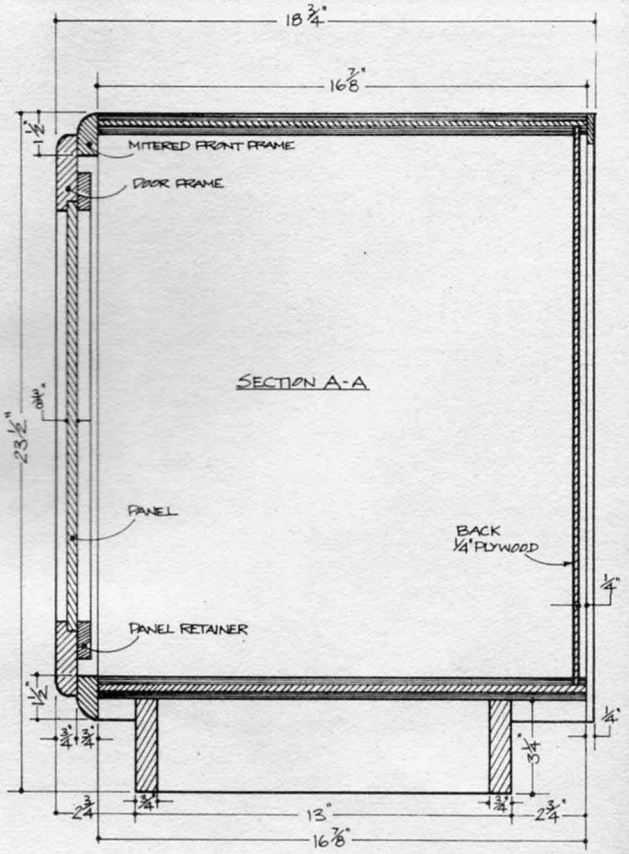


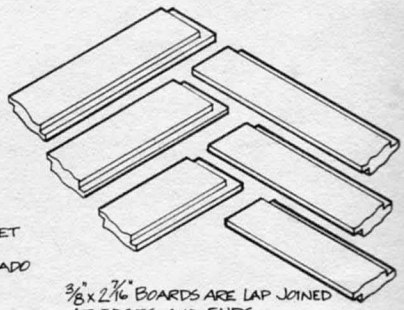
After laminate is applied, the four corners are routed for the strips which are glued in place and rounded off.

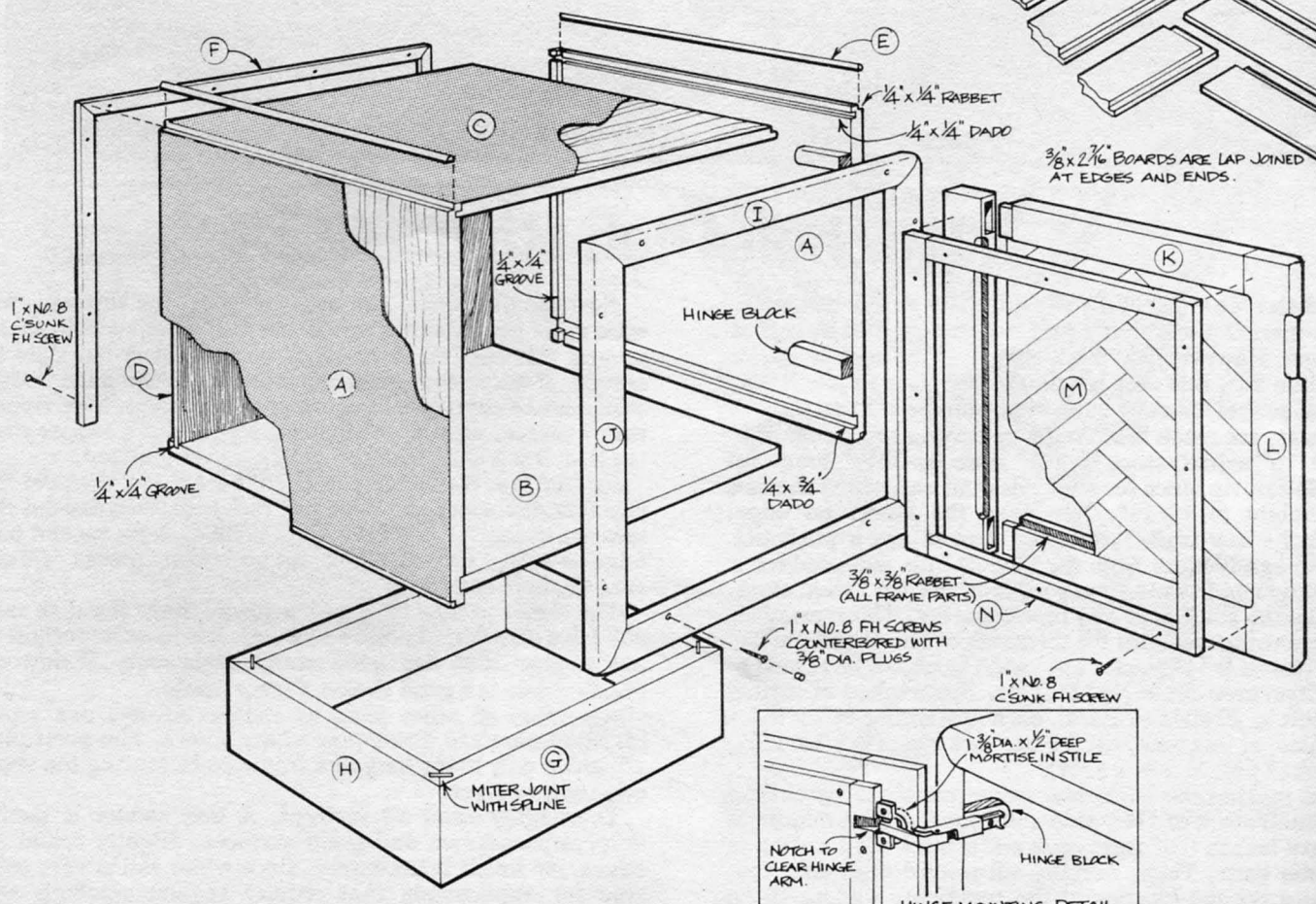


Rear view of door showing battens (N) holding panel. Note notches in batten for hinge arm.

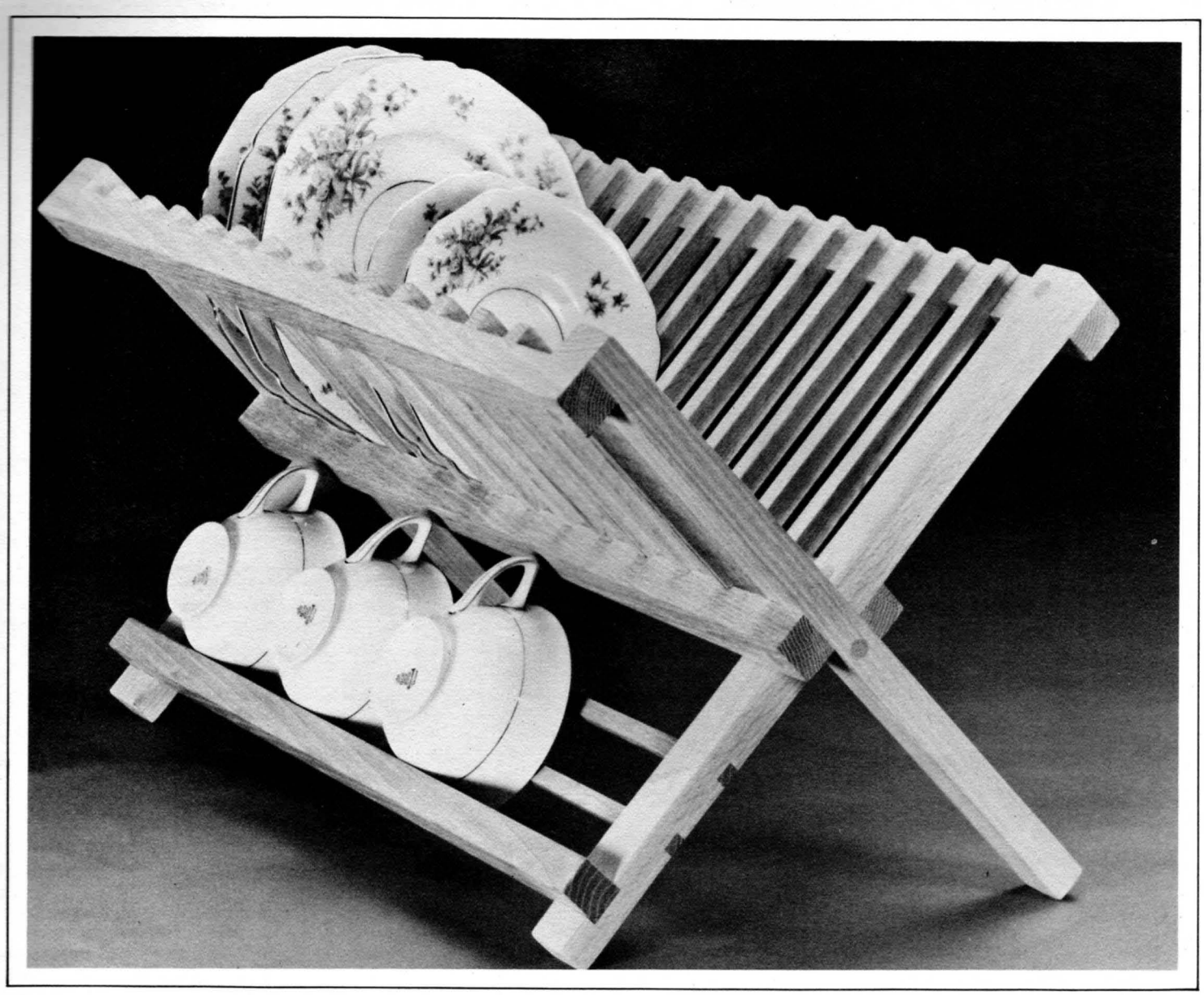

21"
A
2½"
14¼"
2½"
1½"
2½"
⅜"
⅜"
3½"
2¼ TYP.
3/16"x3/16" RABBET
21"
19¼"
15"
15"
¾"
2"
2"
A
17"


18¾"
16⅞"
1½"
MITERED FRONT FRAME
DOOR FRAME
SECTION A-A
23½"
PANEL
BACK ¼" PLYWOOD
¼"
PANEL RETAINER
1½"
¾"
¾"
¾"
2¾"
¾"
13"
¾"
2¾"
16⅞"


⅜"x2 7/16" BOARDS ARE LAP JOINED AT EDGES AND ENDS.


F
E
¼"x¼" RABBET
¼"x¼" DADO
C
I
A
K
¼"x¼" GROOVE
HINGE BLOCK
1"x NO.8 C'SUNK FH SCREW
D
A
M
L
J
¼"x¼" GROOVE
B
¼ x ¾" DADO
⅜"x⅜" RABBET (ALL FRAME PARTS)
N
1"x NO.8 FH SCREWS COUNTERBORED WITH ⅜" DIA. PLUGS
1"x NO.8 C'SUNK FH SCREW
H
G
MITER JOINT WITH SPLINE

1⅜" DIA. x ½" DEEP MORTISE IN STILE
NOTCH TO CLEAR HINGE ARM.
HINGE BLOCK
HINGE MOUNTING DETAIL



Kitchen Dish Rack

The dish rack is generally considered a purely utilitarian kitchen utensil - one that's just not expected to ever look like much. However, we think ours is an exception. Made from white ash, this rack is not only very attractive, it also folds flat so that it can be hung neatly on the kitchen wall.

The slats are made first. Begin by cutting two pieces of 1″ oak (13/16″ actual) stock to 1½″ wide by 38½″ long. Set the table saw rip fence for a ½″ wide cut and adjust the saw blade height to 13/16″. Now feed the stock, on edge, through the saw blade. (Note: be sure to use a pushstick and keep hands away from the blade.) This will produce a cut slightly more than halfway through the 1½″ wide stock. Next, flip the stock over and repeat the cut. This operation, called resawing, reduces the thickness of the stock from ¾″ to ½″. Now this ½″ thick x 1½″ wide stock can be ripped to ⅜″ widths, then cut to 7½″ lengths. This method of cutting will result in 30 slats (4 extra), each measuring ⅜″ x ½″ x 7½″. Also, at this time, cut the cup rack base (¾ x 1 x 17⅜) and back (2 pcs. ¼ x ⅜ x 17⅜).

Begin making the horizontal frame members by cutting ¾″ (actual) stock to 4½″ wide x 20″ long. At the middle of the board length (10″ from each end), mark the location of the center dado. Then, working out toward the ends, continue to mark the location of the remaining dadoes (6 on each side). This layout method assures that there will be room for the frame ends later on.

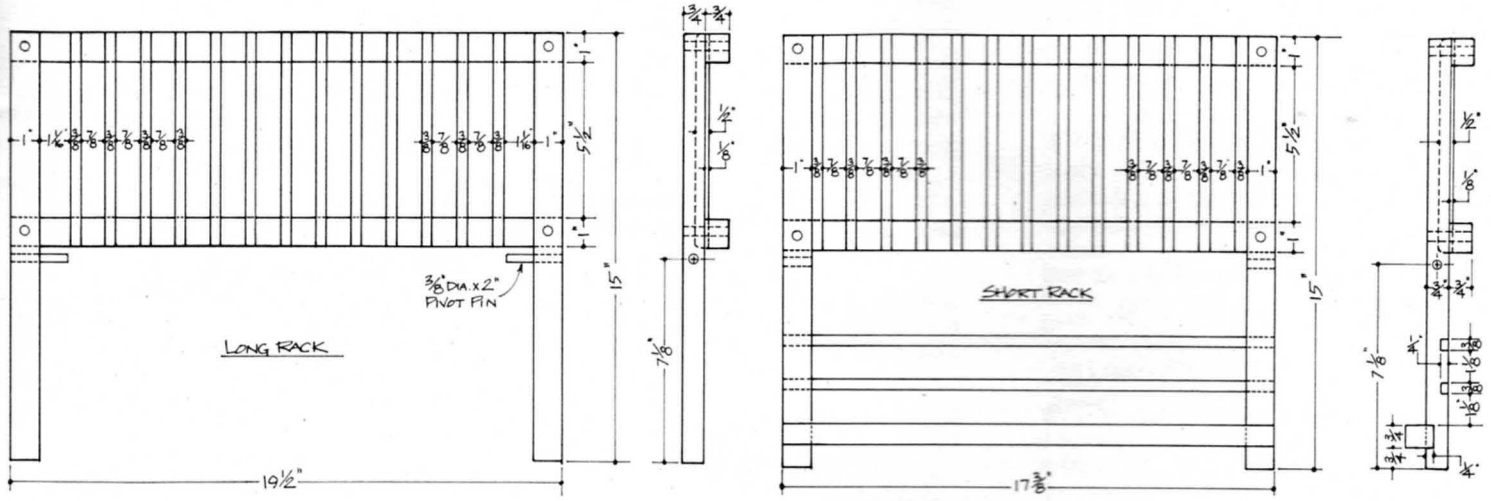
Now the dado head can be used to cut the thirteen, ⅜″ wide x ⅛″ deep dadoes across the 4½″ board width. Make several test cuts on scrap stock to make sure the slats fit snugly. If necessary, make adjustments in the dado width. When all 13 cuts have been made, the board can be ripped into 4 pieces, each 1″ wide. These pieces are longer than needed, but will be trimmed to fit when assembled.

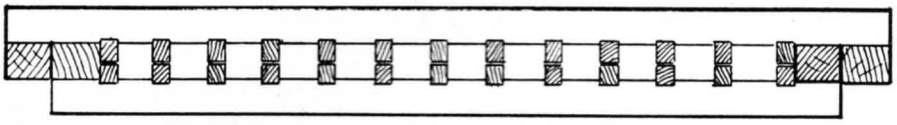
Cut the four frame ends to size (¾ x 1 x 15), then cut the cup rack dadoes on the two short rack legs. Now lay out the location of the ⅜″ pivot pin hole. With each frame end pair edge-to-edge, drill the hole through both pieces. (Make sure the hole is square).

The slats can now be glued in place. Since the dish rack will have constant exposure to water, it's most important to use a glue that has good water resistance. Weldwood Plastic Resin is a good choice. Clamp firmly.

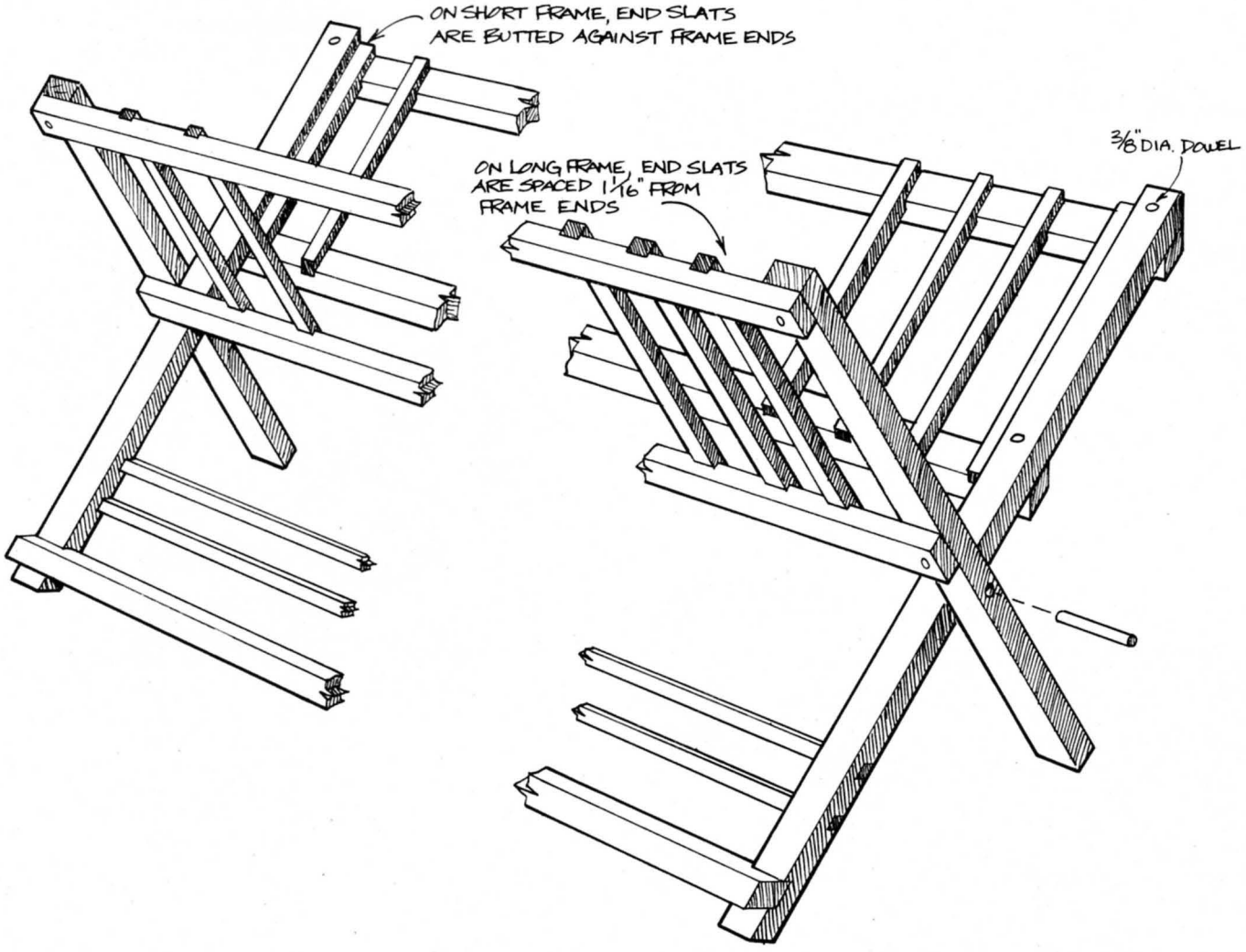
Assemble all other parts as shown. Always use water resistant glue and dowel pins where shown. The pivot pins are glued only to the long rack frame ends, leaving the short edge free to pivot.

Thoroughly sand all surfaces. A belt sander is useful here, especially on end grain surfaces. Slightly round all edges. No finish is necessary, since white ash is very suitable for applications that require regular washing and scrubbing.



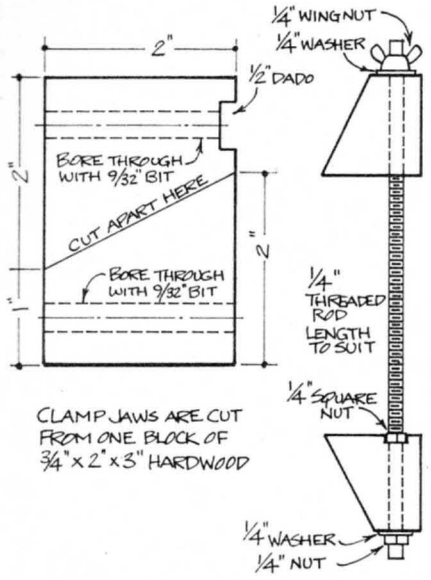


TOP VIEW OF FOLDED RACK

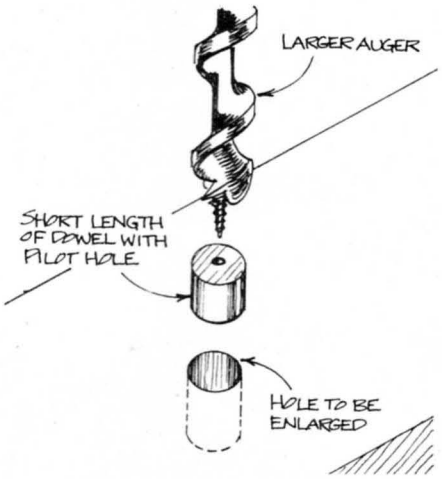


Shop Tips

Almost every shop has need for a few light-duty clamps. They're ideal for jobs where a "C" clamp is too small and pipe clamps too cumbersome. Here's an inexpensive way to make your own from ¼" threaded rod and scrap stock.



Enlarging a previously drilled hole with an auger is difficult because the pilot screw does not have wood to bite into. You can start over by gluing a piece of dowel in the hole and re-boring but here's another method that saves time because gluing isn't necessary. Cut a short length of dowel of the same diameter as the hole. Locate dowel center, then drill a pilot hole to take the screw of the enlarging auger. When threaded on the pilot screw, the dowel serves to keep the auger centered as the hole is enlarged.



Make it a practice to clean oilstones on a regular basis. Use lacquer thinner and wipe off dirt and gummed oil with a rag. Heating the stone in an oven, or soaking it in kerosene will remove embedded dirt and oil from a badly clogged stone.

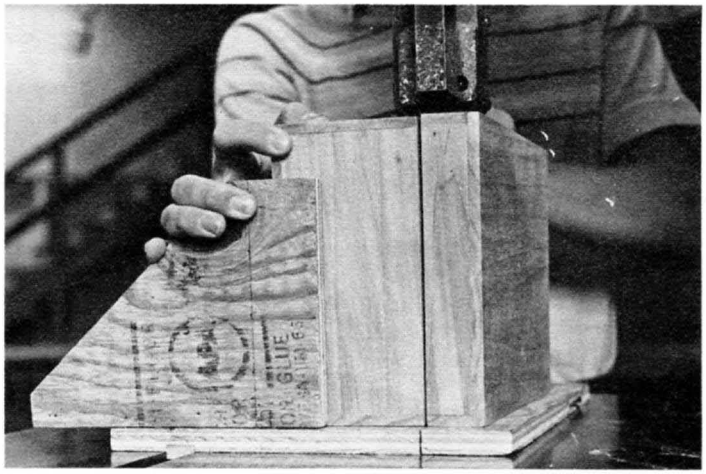
If stored in a refrigerator, plastic resin glue will keep overnight. It will be quite thick, but satisfactory for use. However, do not attempt to thin it with water. Be sure to clearly label the container as the stuff looks like gravy.

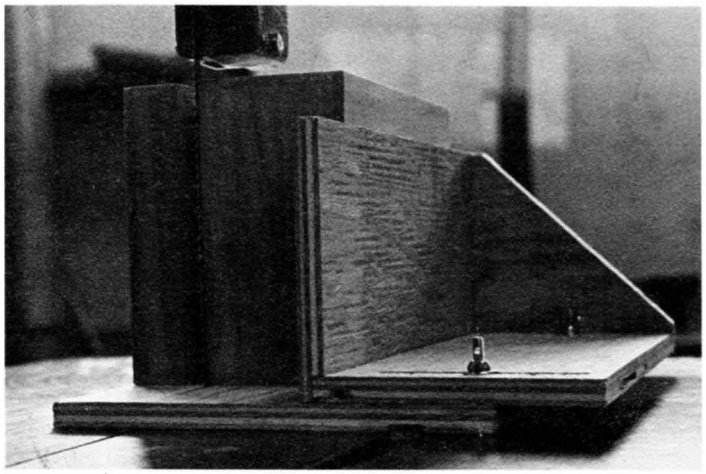
Leo Smith, Backus, Mn

Around the shop, an old electric clothes iron will come in handy for fixing small splinters that break from an edge. Set at medium heat, an iron will cure yellow glue in about 30 seconds. Go easy with the iron though, because too much heat can cause the wood to overdry and warp. Also, keep glue off the surface of the iron. Both yellow and white glue can react with the metal causing unsightly spots on the wood surface.

Mike Graetz, Lakeland, Mn

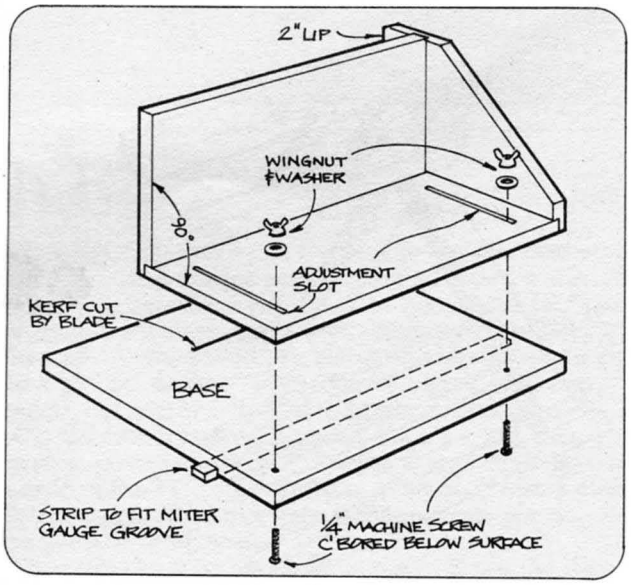
Use plastic (cellophane) wrap to prevent wooden hand screws from picking up glue.





Box Lid Jig For Bandsaws

by Donald Steinert



My woodworking students are required to make a series of increasingly complicated boxes. These are entirely assembled and then cut open to form a lid. A bandsaw is best for this operation but lacking a fence, I designed this adjustable jig for cutting open small boxes of various sizes. We now get perfectly matched lids every time.

Make the jig from ½ or ¾" plywood. Dimensions are determined by your table size though the base can be larger than the table since it rides in the miter gauge groove. Make base first and run it into the blade to cut a kerf of about ¾ the base length. This determines the length of the box you can cut. The upper part of the jig is adjusted to handle various box depths.

Classified

The Classified Rate is 50¢ per word, payable with order. Minimum ad is 15 words. Send copy and check to **The Woodworker's Journal**, Classified Dept., P.O. Box 1629, New Milford, CT 06776.

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

Free Toy Pattern price list, unique, wide variety, SASE. BAS, 3056 Oneida, Sauquoit, NY 13456.

Buy Direct - Save 50% + on all your sanding, band-saw and tape needs. Small quantities. Send SASE for pricelist. Fixmaster, Box 15521, Atlanta, GA 30333.

Wide Veneer Sheets unseamed or seamed to your specification. Dimension Hardwoods and Turning Squares. Catalog Woodshed, 520A Cedar, Centralia, IL 62801.

Bull Manure Grinder. An old time, wooden favorite conversation piece. Simple construction, fun to make. Plans $3.00. B & F Woodcraft, P.O. Box 791, Pinson, AL 35126.

For Hardwood Lumber Think: Wood World, 9006 Waukegan Rd., Morton Grove, IL 60053. Most domestic and many imports such as Rosewood, Mahogany, Bocote, Padauk and Zebrawood. Send for price list and mail order information.

Portable Cradle Plans. Assemble - take down in seconds for easy transportation. $3.00. P.O. Box 263, Holland, IN 47541.

Catalog of Wooden Toy Truck Patterns, $1.00 (refundable). Franks (WJ3), 1202 S. Second, Booneville, MS 38829.

Cabinet - Spacious, sturdy, attractive jewelry cabinet. Six drawers and necklace compartment with revolving hanger. Easy to follow plans $3.00. Fred Faust, Box 3688, Laureldale, PA 19605.

Southern Michigan Woodworkers: Cherry, Maple, Oak, Beech, Hickory. Green to kiln dried, 65¢ and up. Daryl Martin, 1755 Cornwell Rd., Emmett, MI. 313-392-2888.

Woodcraft Plans, ideal for gifts, craftfairs or shop income 5/$3.00. Myers of Moonshine, Box W, Aurora, NY 13026.

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

ROK-A-ZOO™ Full Size Patterns of 6 different rocking animals that you can build with total satisfaction to create a supreme quality rocking animal to last for generations. For illustrations send $1.00 (refundable) to: Frechette's Heirloom Toys, P.O. Box 4567, Spokane, WA 99202.

Miniature furniture patterns. Dollhouse plans. Basswood, hinges, tools, books, accessories, wallpaper & flooring. Catalog $1.00. Green Door Studio, Dept. WJ, 517 E. Annapolis, St. Paul, MN 55118.

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.

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.

Plans, complete instructions, bread box, highchair, crib, trestle table, $2.00 each, $6.00 all. Sellers, Box 14565, Savannah, GA 31406.

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

New Patterns for 5 Wooden Toy Truck and trailer sets, $3.00. Franks (WJ3), 1202 S. Second, Booneville, MS 38829.

From the files of Momoyamabori - 20 original, Oriental carving patterns 12″ x 18″ $7.50. Kay Glenn, 37 Thrasher, New Orleans, LA 70124.

Fine Cabinet Plywood. Cut sizes - Full sheets. Many species and thicknesses. Free catalog! Plywood Depot, Box 897, Gaylord, MN 55334.

Free Plans for Furniture, Toys, Novelties, shop equipment. Your choice of 5 free plans with purchase of 80 pages 700 illustrated plans. Send U.S. $5.00, refundable, to Mayco Sales, Box 2931WJ, Mesa, AZ 85204.

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

Catalog of wooden toy patterns, wooden toykits, and toymaker's supplies. Send $1.00 to Toy Designs, P.O. Box 441-N, Newton, IA 50208.

New Patterns for 6 Piece Wooden Toy steam train (32″ long), $3.00. Franks (WJ3), 1202 S. Second, Booneville, MS 38829.

45 Plans Catalog: Barns. Outstanding styles, many sizes. Garages/workshops, outbuildings, homes. $3.00 ($5.00 plan refund). Ashland Barns, 990W Butlercreek, Ashland, OR 97520.

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.

Drafting Services: Construction Drawings made from your ideas and specifications. The Drafting Pad, Box 5326, George, WA 98824.

Distributor Closeout - New American Dental cutters - 6 for $2.00 postpaid. PAC Industries, Box 24, Warren, MI 48090.

Woodworkers -- Supportable offers increased safety, accuracy, convenience, when sliding large materials off shop tools onto Supportable's ten wide rollers. Info. $1.00. Turningpoint Mfg., Dept. D3, Davenport, ND 58021.

Upholstery and caning supplies, catalog $1.25 (refundable). Jack's Upholstery & Caning Supplies, Dept. WJ 1, Oswego, IL 60543.

New Patterns for 10 Different Wooden Toy cars, $3.00. Franks (WJ3), 1202 S. Second, Booneville, MS 38829.

Band Sawn Breadboards - stylish contour lamination - plans $4.00. Tierra Design DL, Box 40020, Albuquerque, NM 87196.

Swing: Comfortable Old Time Platform family lawn swing. Detailed, illustrated plan with material list. Send $4.00 to: Edward G. Mason, 8322 S. Howell Ave., Oak Creek, WI 53154.

Woodworkers! Flea Market Specials! 8 full-size patterns for car and trucks from scrapwood. Send $3.00 to Tubecity Graphics, P.O. Box 322, Milton, MA 02186

Over 75 Patterns! Enjoy profitable, wooden gifts, toys, household accessories. Plus "Shop Secrets". Only $5.00. Accents (J-71), Box 262, Danvers, MA 01923.

2,000 bd. ft. of select Cherry lumber and 400 bd. ft. of select Maple. Some curly Maple. Planed and jointed to ¾″. Will sell all or part at $1.30 bd. ft. Delivery available. 419-886-3599.

Cabinetmaker's Supplies

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

Allen Specialty Hardware
P.O. Box 10833
Pittsburgh, PA 15236
16 page catalog $1.00
Concealed hinges for wood & glass doors, contemporary pulls & knobs, reproduction hardware, specialty items.

The Decorative Hardware Studio
160 King Street
Chappaqua, NY 10514
Catalog $2.00
Campaign hardware, contemporary & reproduction hardware, brass hinges, knobs, pulls, brass galleries, molding & rosettes, locks, misc. hardware.

Horton Brasses
Nooks Hill Road
Cromwell, CT 06416
Catalog $1.50
Reproduction hardware (Queen Anne, Hepplewhite, Chippendale, Victoria, Colonial).

Paxton
Upper Falls, MD 21156
54 page catalog $1.50
Reproduction hardware (Chippendale, Hepplewhite, Queen Anne, Spanish, Victorian), campaign hardware, ice box hardware, misc. hardware.

Period Furniture Hardware Co.
123 Charles Street
Boston, MA 02114
Catalog $3.00
Reproduction Hardware.

Ritter and Son Hardware
Gualala, CA 95445
Catalog $1.00
Reproduction hardware, hathooks, ice box hardware.

The Wise Co.
6503 St. Claude Ave.
Arabi, LA 70032
Catalog $2.00
Reproduction furniture, campaign hardware, coat hooks, hinges, misc. hardware.

18th Century Hardware Co.
131 East Third Street
Derny, PA 15627
Catalog $2.50
Reproduction Victorian & early American hardware.

Shop Notes