

WOODWORKER'S JOURNAL

downloadable plans:
"America's leading woodworking authority"™

In this plan you will be getting:

- Step by Step construction instruction.
- A complete bill of materials.
- Exploded view and elevation drawings.
- How-to photos with instructive captions.
- Tips to help you complete the project and become a better woodworker.



To download these plans, you will need **Adobe Reader** installed on your computer. If you want to get a free copy, you can get it at: **Adobe Reader**.

Having trouble downloading the plans?

- If you're using Microsoft Internet Explorer, right click on the download link and select "Save Target As" to download to your local drive.
- If you're using Netscape, right click on the download link and select "Save Link As" to download to your local drive.

WOODWORKER'S JOURNAL
©2007 ALL RIGHTS RESERVED

A Bentwood Carryall



Published in Woodworker's Journal "Woodworking for the Home Hobbyist: 27 Great Projects and Techniques for your Woodshop"

\$7.95

WJ154

A Bentwood Carryall

Pulling a piece of dripping hot wood around a form for the first time is an experience no woodworker should miss out on. Like fitting together your first successful dovetail joint, there's a certain rite of passage that goes along with steam bending. Try your (gloved!) hand at this time-honored technique when you build our attractive carryall.



Tackling a broad range of projects is one of the things that makes wood-working so enjoyable. As we get better at what we know, we begin looking for the next challenge.

A safe approach for “newbies” to steam bending is to build a project with just one bent piece. This carryall is a good choice. Aside from bending the handle, this all-purpose basket is otherwise straightforward in design and construction. Pull a little 1/2" and 3/8" cherry from your scrap bin for the box and around a board foot of 3/8"-thick, straight-grained ash for the handle.

Bending the Handle

After setting up your equipment for the steaming operation, make the form for bending the handle (piece 1). A pattern of the shape is provided in the *Technical Drawings* on page 82. You'll notice that the last few inches at each end of the form toe in about 20°. This allows for the natural springback of the handle after it's removed from the form. The ends on the final handle shape will be close to straight. Keep in mind, however, that the amount of springback will vary from one piece of wood to the next.

It's a good idea to cut several pieces of ash for the handle stock (just in case this step doesn't work out on your first attempt) and steam them for several hours. With high anticipation our author drew his first piece out of the steam box and pressed it against the form. It snapped. The second piece cracked. Then his third, fourth and fifth



Figure 1: Once the steamer was working properly and the author's air-dried stock was good and hot, the ash bent quite easily—a bending strap wasn't even necessary.

pieces failed. His error turned out to be using kiln-dried lumber; what he needed was air-dried stock. Things just weren't going as well as they do for Norm Abram on his show! Be sure you avoid kiln-dried lumber when choosing your handle stock.

The problems for our author continued. After a quick trip to the lumberyard for air-dried ash, he cut the stock to size and fired up the steam chamber. Two hours later he attempted to bend the first piece and...it cracked. Thinking back over the process it occurred to him that he had been able to handle the wood without gloves. His wood just wasn't getting hot enough or wet enough to bend. As a remedy he placed heavy weights on the lid to seal the steaming water in the pot and, for good measure, he shortened the copper tubing from the pot to the chamber so the steam wouldn't have a chance to cool off too quickly. After a few minutes, the huffing and puffing noises

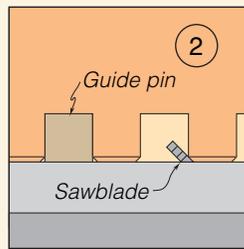
coming from the box assured him that he had solved the problem. And sure enough, on his very next attempt he easily bent the wood around the form by hand and held it in place as two helpers clamped it to the bending form. Use C-clamps and a block of wood to secure the flat area of the form first, then add clamps around the curved sections of the form (see *Figure 1*).

Finger Jointing the Box

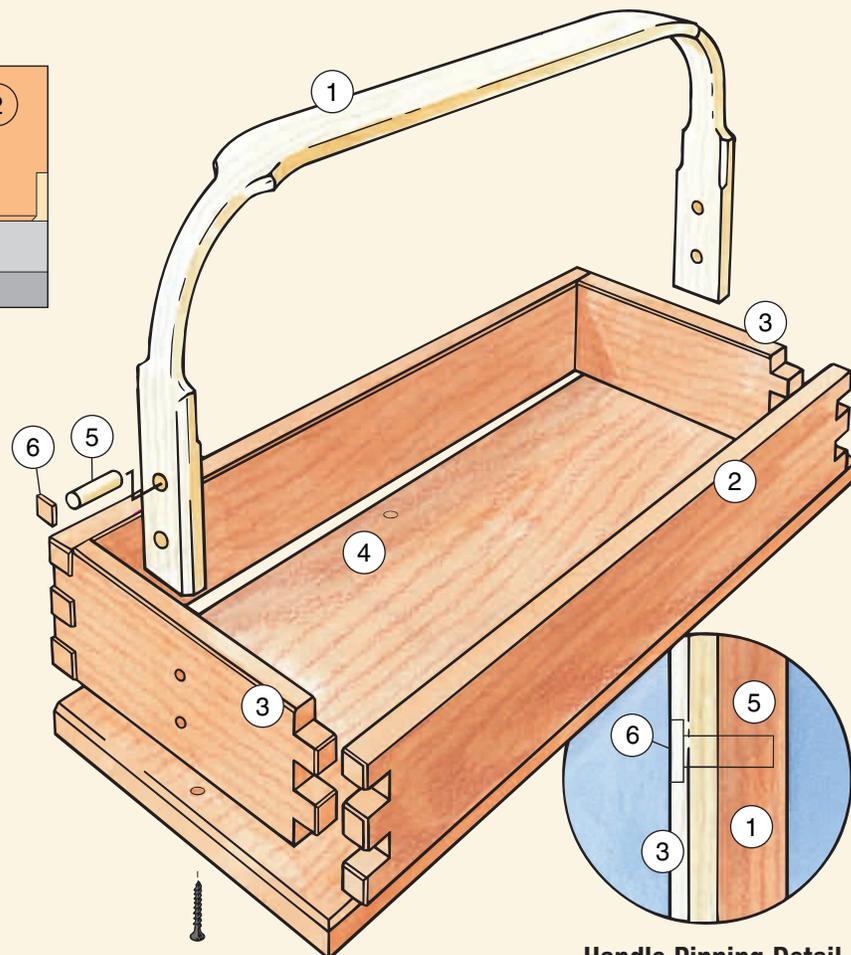
While the ash dries in the form for a couple of days, you can get busy making the cherry box. First cut the stock to size for the sides, ends and bottom (pieces 2, 3 and 4), then get out your trusty finger joint jig for the table saw. (See *Figure 2* to make your own jig if you don't have one.) For a special touch, you might decide to cut the fingers extra long so they'll stick out a little when the box is assembled.

Chamfering the side edges of each finger is a snap using your finger joint

Carryall Exploded View



Chamfering with
Finger Joint Jig



Handle Pinning Detail

MATERIAL LIST

| | T x W x L |
|-------------------|-------------------------|
| 1 Handle (1) | 3/8" x 1 1/2" x 29" |
| 2 Sides (2) | 1/2" x 2 1/2" x 14 3/4" |
| 3 Ends (2) | 1/2" x 2 1/2" x 6 1/4" |
| 4 Bottom (1) | 3/8" x 6 1/2" x 15 3/8" |
| 5 Handle Pins (4) | 1/4" Dia. x 5/8" Dowel |
| 6 Square Pegs (4) | 5/16" x 5/16" x 1/4" |

jig. Just tilt the blade 45°, raise it just above the saw table, and reposition the jig on your miter gauge to align the tip of a finger with the blade, as shown in the *Drawing*, above. Then just follow the same procedure for chamfering. To chamfer the faces of the fingers, remove the jig and use the miter gauge to push the stock over the tilted blade.

Then cut 1/8"-deep chamfers on the top edges of the bottom panel.

Before you glue the box together, sand the sides and ends to 150 grit and apply a coat of oil finish, carefully avoiding the inside surfaces of the joints. This will make cleanup really easy after you're done clamping the box.

Wait until the glue becomes

rubbery, then use a 1/4" chisel to slice it off the oiled wood. Once the glue dries completely, drill four slightly oversized countersunk holes to secure the bottom to the box with wood screws. Even though the bottom is only 6 1/2" wide, a little movement is still possible. The oversized holes will help keep the bottom from splitting as it shrinks and expands.

FIGURE 2: FOUR EASY STEPS FOR MAKING FINGER JOINTS



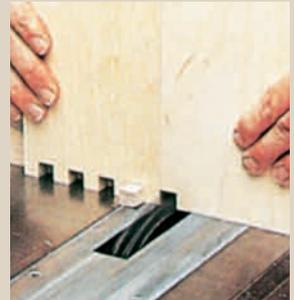
Step 1: Install a 1/2" dado blade and a tall miter fence. When you're sure the fence is square to the blade, make one pass with the blade raised to 9/16".



Step 2: Glue a 1/2" x 9/16" x 2" guide pin in the dado you just made and reposition the fence 1" to the right. Make a second pass, leaving a 1/2" gap between cuts.



Step 3: Position the box side as shown above to make the first cut. Then place the cut you just made over the guide pin to automatically index the next cut.



Step 4: After the last cut in the first side piece, place the mating end piece tightly against it and continue cutting fingers. Repeat this procedure for the other side and end.

Attaching the Handle

You'll need a variety of tools to shape the handle after tracing the handle pattern (see page 83) onto the bent stock and cutting the ends to length on the table saw. First rough the handle to shape by sawing outside the layout lines with a coping saw, then work with a cabinetmaker's file and sandpaper to complete the shaping and chamfer all the edges. Work the handle until it's entirely smooth to the touch.

The handle is pinned to the box

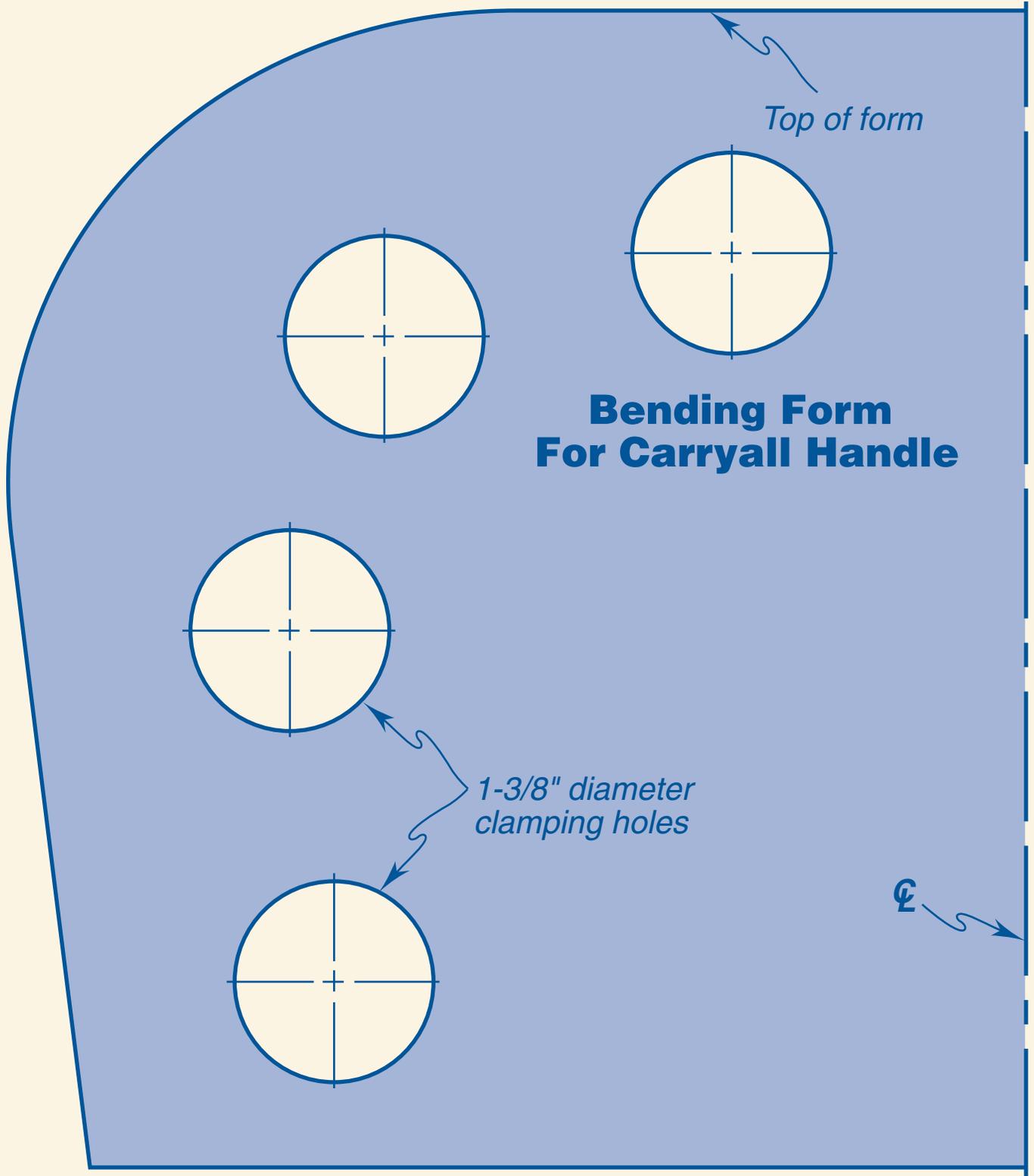
with short 1/4" dowels (pieces 5), and these pins are covered with square pegs (pieces 6). Using a 1/4" drill bit with a stop collar, drill two 3/4"-deep holes through each end of the handle right into the box ends. Then squirt a bit of glue into each hole and use a longer dowel to drive the pins to their full depth. Once the glue dries, remove the clamps and chisel the ends of the dowel holes square to accept the decorative pegs. Give the handle a final light sanding followed by a second coat of oil to wrap up the project.

Our author's steam-bending experience may remind you of the old saying about needing to break a few eggs to make an omelette. However, that omelette tastes pretty good once you get past the little setbacks that come with learning something new. You may still end up with a few broken handles, but don't lose heart. In fact, save them as reminders of your hard work.

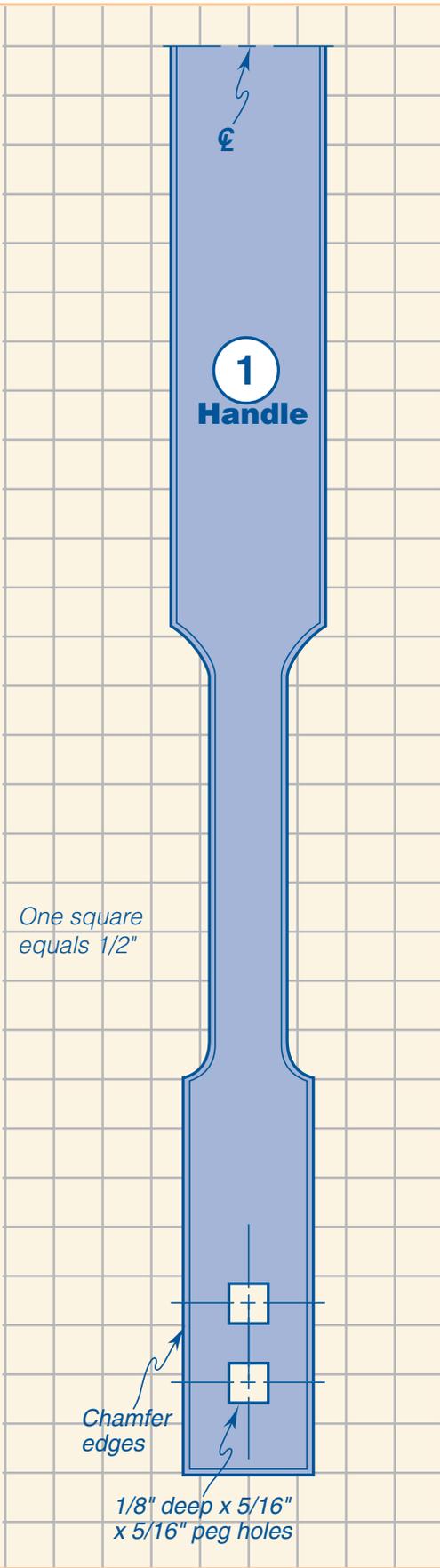
QuickTip

Double-stick Trick

The bottom bags on many styles of dust collectors are held in place with a locking band. If you have one of these models, you may have trouble with the bag slipping off as you try to set and lock the band over the bag. Here's a simple remedy: put a bit of double-faced tape on the metal lip of the dust collector. The bag will stay put while you drop the locking band in place.



Full Size Pattern



QuickTip

Dust-Free Finishing

If you have to do most of your finishing in the shop, finding a dust-free environment can be next to impossible. You can make your own collapsible "clean room" easily with a vinyl zippered bag made for hanging clothes. Give it shape by building a simple frame from 1/2" PVC pipe. If you stroke the outsides of the bag with a wool carwash mitt, the static electricity you generate will attract and immobilize lurking dust. To use the apparatus, install some metal hangers to hang the finished articles, and add a light bulb socket to keep the interior warm if you're working in an unheated space. You can use the same rig for keeping glued parts warm as the adhesive cures.

