



*Curly figure is most evident—and dramatic—in traditionally stained pieces like this reproduction of a William and Mary lowboy. Different types of figure were used skillfully to distinguish different parts of the piece (drawer front figure differs from the molding surrounding the drawers, which differs from the top).*

# Finding Figured Woods

## *Desirable defects and irregularities*

by Lane DeCamp

I build mostly Colonial and Federal style American furniture in my shop, most of it in figured woods, with maple predominating. On my first projects, I'm sure I was paying well north of \$20 per board foot for this lumber, even though the price sheets at the mills said \$2.50 or less. Yield was awful. I was picky, and I couldn't reliably get the quality and type of figure I wanted. In those days, I ended up burning a lot of poor curly maple in my woodstove as I balanced my checkbook in disgust.

Since then, I've been fortunate enough to become acquainted with several mill owners who showed me their side of the game, and I've talked with a number of professional cabinetmakers about how they built their own woodpiles.



*Texture is the key to the identification of curl, both on the faces and edges of rough boards. Curly figure results from wavy grain which—because it's not all in the same plane—appears as alternating bands of smooth and fuzzy wood when it's in the rough, and reflects light unevenly when it's planed.*

Figured woods, regardless of the species, share a family resemblance. What is true for identifying a spectacular board of curly maple in the rough will generally hold true for identifying curly cherry, fiddleback walnut, quilted mahogany or any other figured wood. This being the case, I've chosen to discuss maple because that's the wood I use the most.

Regardless of wood technologists' or furnituremakers' distinctions, most mills distinguish only between hard maple and soft maple and then get pretty fuzzy about what is curly, fiddleback or even quilted. Nature didn't draw clear distinctions, so the mills don't either. Still, by learning what to look for, you can end up with the kind of figure you want.

Most figure only occurs in wood close to

the bark (bird's eyes are an exception). Thus, a wide board whose center comes from deep inside the tree will have curl on the sides but not in the middle. A tree will only yield a few wide boards with superb, consistent figure across their width, and the mill usually collects a dollar or two more per board foot for those boards. They're worth the extra cost, provided you can use the width to full advantage. If you're going to end up trimming the edges and cutting off the best figure, you're better off buying narrower boards or boards in which the figure is interrupted. You'll enjoy considerable savings without compromising your design in the least.

Sometimes figure jumps right out at you. Other times it's much more subtle. The physical cause of curl, the most common type of figure, is wavy-grained wood. When a log is cut into boards, the surface plane of each board becomes a section through the wavy grain. The waves present facets of different angles at the board's surface, causing light to reflect in such a way as to create the familiar rolling washboard effect (see the bottom photo on the facing page). In the rough, all you'll see are raised ridges of fuzzy grain in roughly parallel rows. Be careful, however, not to confuse sawmarks for grain. Sawmarks show up as fuzzy, raised ridges, either in arcs from a mill's circular saw or as striations from a band mill.

You should also be aware of whether there's any heartwood in a board. Unlike cherry or walnut, the desirable part of a maple tree is its sapwood. In maple, the heartwood is a small core of darker, gray-brown color. Some modern furnituremakers like boards with heartwood, but the old masters never used it, so contemporary furnituremakers who specialize in traditional furniture don't either. Often you'll find heartwood showing on one face of a board but not the other. That wood should be cheaper than boards that are heart-free on both sides. If you buy wood that's got heart on one side and you're planning to use the other face, you should anticipate losing a board every now and again as you hit heartwood while planing the sapwood side.

## Where to go

I buy most of my figured lumber in eastern Pennsylvania because the selection is reliable, the kiln drying is of consistently high quality, and the prices aren't bad. If I lived in Ohio, I'd buy in Ohio or western New York. If I lived in Massachusetts, I'd go to northeastern Connecticut, Maine or New Hampshire. The point is to go to

where the trees are, but not to go too far.

Many of the better mills advertise in the back of *Fine Woodworking*. I've never had a bad experience with any of them, but I always call ahead to confirm what they have in stock. These mills vary tremendously in size and character, from backyard operations to extensive warehouses. If you know what you're looking for and are courteous, you're likely to end up with some beautiful lumber.

## Looking at a stack

Expect to see lumber in three states: loose in bins, in bundles on pallets and in stickered stacks. Only the endgrain is vis-

## Lumberyard etiquette

Experienced cabinetmakers stand out from the Saturday shoppers almost from the moment they arrive at a mill. Act like a professional, and you'll probably find prices very flexible. A few suggestions follow.

Bring your own tape measure and a pair of gloves. If you're going to want to cut stock to different lengths, try to bring a small chainsaw in case the mill's saw is busy. I also bring a notepad. I never seem to find precisely what I came for, so I have to recalculate at the mill.

Park your car or truck away from the wood sheds until you've selected your lumber, or you'll find yourself getting in everyone's way.

Watch your language. In many of the eastern Pennsylvania mills where I shop (Amish country), both owners and workers are quite religious. What might seem like very mild profanity to you may be highly insulting to them—and not soon forgotten.

Always replace lumber you've pulled out but not taken, and restack bundles if the mill broke one open for you. Leave all lumber as you found it. If you're only looking for a couple of boards, don't ask to have a bundle broken up or for a forklift to move lumber for you; if you're planning to buy a hundred board feet or more, that's a different story.—L.D.

ible when lumber is stacked in bins, so you will have to remove and examine each board. It's a lot of work because the best and widest boards are usually at the bottom.

Bundles are convenient to sort through, but if you're going to have a bundle opened, plan to buy enough to make it worth the mill's time. Always check the edge-grain on a bundle you think you might be interested in—figure is usually obvious as vertical stripes on the edges. The mill will usually move a bundle into the light and provide a pallet (or a couple of logs) onto which you can transfer boards. Build a new bundle as you flip through, stacking boards flat with the ends and sides evened up. This way the mill workers can easily strap and stack it with other bundles again.

When boards are stickered, it's more work pulling, inspecting and returning them to where they belong. That's because stickering usually indicates that the lumber in question has been stacked in the order it was sawn from the log. Figure and grain will match from flitch (a horizontal section through the log) to flitch, and that commands a premium price—as long as boards are kept in order. If you mix up the boards, you destroy part of the lumber's value. If you're interested in some boards in a stickered stack, you should plan to buy several flitches at least, if not the whole stack.

## Carting it away

After you've measured your purchases and paid up, it's time to pack the wood. I used to eye longingly each flatbed trailer I passed on my way to and from the mills, but no longer. For Colonial and Federal furniture construction (and for most non-architectural cabinetmaking), you'll find you can cut your rough stock down to 24-in. and 36-in. lengths without much waste. Look at cut lists or drawings for most pieces of furniture, and you'll find lengths one, two or three inches shorter than each of these nominal lengths. Because I have a pickup truck, I'll often cut 6-ft. sections (which translates to three 24-in. or two 36-in. lengths), but as my back gets worse, shorter pieces become more attractive.

If you have to transport longer lengths, be sure to bring a red flag. I use an oversized piece of fluorescent red nylon (available at most fabric stores) attached with a couple of roofing nails and some duct tape. Hardwood mills don't usually stock disposable flags, and even if they do, the plastic film they're made from won't last the drive home.

## Soft curly maple

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Curly maple is a staple of most specialty mills, and most of it is soft maple. Soft maple is lighter in weight than hard maple and dents with your fingernail but is, nonetheless, a good furniture wood. It doesn't warp badly, it works well with both power and hand tools and it finishes evenly. Also, it's available in wide boards (15 in. isn't unusual) and in all lengths (see the photos at left).

Soft maple curl varies widely. The boards in highest demand have light, parallel figure of consistent intensity across the board. Depending on the tree and the way the wood was cut, the curl may travel diagonally, interlock or create many different kinds of patterns. There's no one right figure for all furniture. Instead, pick a figure compatible with your design, and pick boards with a consistent figure. Designs with mixed types of curl rarely work.

Finding good boards for the carcass seems easy after I've looked for decent legs on which to set the box. I *always* buy good curly maple in any thickness over 8/4. It's just too rare to pass up.

Good curly leg stock—if you can find it—has to meet several criteria. First it has to be free of any cracks or other kiln defects. These problems occur in plain (unfigured) maple as well, but they always seem to be worse in figured stock. I use 8/4 curly leg stock for most turned cabriole legs and usually buy this stock kiln dried. For 10/4 and thicker, I look for air-dried stock instead.

For carved cabriole legs, I usually use plain rock maple. Curly maple is harder to turn and carve anyway, and with unfigured legs, mediocre figure won't interfere with the appearance of the case-work. You'll see this solution on many historic pieces.

It's a myth that Colonial and Federal cabinetmakers always had wide boards available. They too either glued up boards or settled for mediocre figure. Those old cabinetmakers also understood that wood figure doesn't have to be spectacular for a piece of furniture to be successful. There are many elements to a design, all of which contribute to its success or failure. Relying on the character of the wood to offset weaknesses in basic design is a greater mistake than using bland wood in an otherwise well-conceived design.

*Soft curly maple boards run much wider than hard curly maple. The board in these three photos (the same board, rough, planed and stained) is about ten inches wide, but the quality of curl is excellent. Even in the rough, beneath the arcs of the saw-marks, the curl is evident in the dirty, parallel bands of raised grain running across the board.*

## Hard curly maple

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Picking hard curly maple is about the same as picking soft, but takes less effort. That's because the boards are thinner (hard maple leg stock is all but unheard of), narrower (4 in. to 6 in. is typical) and usually shorter as well. Curly hard maple has a beautiful creamy iridescence that soft maple can't offer, and the tightest curl of all (1/8 in. to 1/4 in. apart or less) comes only in hard maple (see the photos at left). The wood burnishes somewhat when it's planed, so I hand scrape it just before staining to prevent an uneven finish. Otherwise, it's a beautiful, stable wood that's limited only in the dimensions available. Expect it to run a little higher in price than soft maple.

In the same way that mixed types of curl in soft maple seldom seem to work, hard and soft maples don't mix well either. Both the figures and the way they stain and finish are noticeably different. Unless you're trying to achieve a particular effect, don't use them in the same piece of furniture.

*Hard curly maple differs little from soft curly maple other than that it's slightly creamier in color and available in comparatively narrower widths. Curl occurs near the outside of the tree, hence the bark on this board. The tightest curl occurs in hard maple, but there's some variation. As with soft maple, the parallel bands of fuzzy grain are the key to recognizing hard maple in the rough.*



## Blistered and quilted maple

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Blistered and quilted maple are particularly common in the Northeast. Blister is my favorite type of figure, bar none. At the mills, both blister and quilted figure go for the same price as curl and sometimes for less. I've often found the best blister in the leftovers from a curly maple bin. In the rough, blister looks like very irregular curl. As long as it covers a good part of the board, you'll probably have some interesting figure. I recently picked up two 16-in.-wide boards of gorgeous quilted maple that had been part of a pallet (see the photos at left). When you find them, boards with unusual figures will surprise you, but they are worth throwing in the truck for that job you haven't planned yet.

*Blister (above) and quilted figure (below) aren't usually distinguished as such at the mills. Often you can find some outstanding examples of these figured woods in the dregs pile because in the rough, they look like extremely irregular curl—something for which the furniture industry has no use. The quilted boards were wetted with alcohol to show the figure more dramatically.*

## Bird's-eye maple

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Bird, or bird's-eye maple, is the wood that cabinetmakers hate. It warps badly in the kiln, wide or long boards are rare, the figure is inconsistent and it's difficult to machine and finish. If only it wasn't so beautiful.

When you look at bird's-eye maple at a mill, look for straight lumber above all. Because of its tendency to warp, I always look for extra thickness when I buy bird. Straight boards are a blessing when you find them, but you should always try to give yourself a margin.

Consistency is the other thing to look for in bird. The eyes can vary in density, pattern and size. Everyone seems to like boards densely peppered with little eyes. In terms of workability, small eyes tend to plane and finish easily. The bigger the eyes get, the more they pull out, chip and interfere with practically any finish. Like curl, bird commands a premium price when it doesn't include any heartwood. Unfortunately, the best bird these days always seems to have some heart (see the photos at left). Japanese builders and furniture makers discovered American maples in the last decade or so and are buying much of the best stock today.

*A good example both of bird's eye and of heartwood, this board may be representative of the future of bird. Because of its relative scarcity and of increasing demand for it, both here and abroad, good heart-free bird's eye is commanding a steep price and is becoming much more difficult to find.*

## Worm scars

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Another "defect" (depending on how you view these things) common to maple is worm scars, especially in soft curly maple. Gray-brown like the heartwood, but more concentrated, these consist of the scar tissue with which the tree has filled old worm holes (see the photos at left). They take a finish with no problem, but the long dark streak is always very evident. I happen to like worm scars, but some people don't. Boards with worm scars generally cost the same as those without. □

*Lane DeCamp injured his back moving curly maple into his workshop in Westport, Conn., so he is temporarily confined to wordworking.*

*An oddity that hasn't yet become fashionable, worm-scarred maple still has an interesting look and a certain exotic appeal. Some boards have only one or two scars (rough and finish are opposite sides of the same board here), but other boards are covered with the scars, creating interesting patterns.*