

A JOINER'S ART: FRAME MAKING AS WOODWORKING

PART 3

The third installment of Timothy Holton's PFM-exclusive series continues exploring the craft by covering wood selecting, milling, and profiling.

By Timothy Holton

After introducing this series by delving into the vital roots of frame making in the shops of medieval joiners, I discussed wood as the basic material of the art of the frame maker and sketched out the setup of the modern frame maker's workshop. In this installment, we'll turn to the craft itself, beginning with selecting, milling, and profiling.

As I've emphasized in earlier installments, the most important bases for the beauty of the frame are, first, in its power to complement and honor the picture; second, the inherent beauty of the wood it's made with; and third, the craftsmanship—the care—with which it's made. All three come together in the very first step of crafting a frame: wood selection.

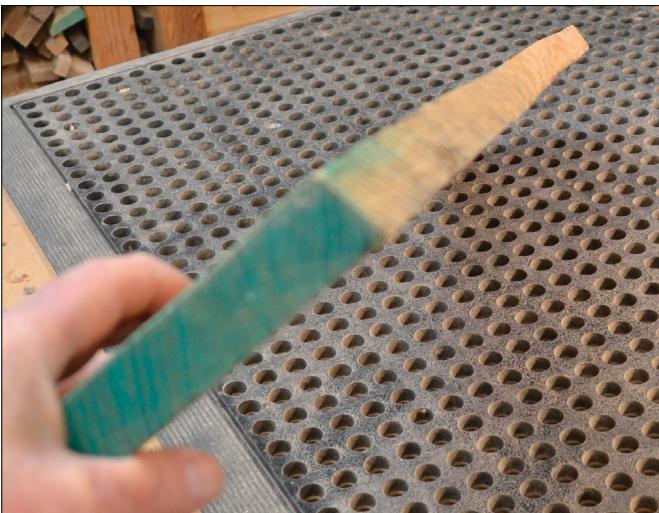
Accordingly, the character of the wood must be chosen with an eye for suitability to the picture as well as appreciation for its inherent beauty. Consider balance and evenness in the pattern (or for accents, if any—at the center of the top, say), as well as how the wood will harmonize with the character of the picture. Is it busy or bland? Then there's the crucial consideration of the effect



● An example of a rough board with a view of its rough edge prior to milling and profiling.

of the frame's color. Even if the wood will be stained, its native hue contributes to the final results. Highly figured woods, like quilted or birdseye maple, can be beautiful and make impressive settings for pictures—assuming the pictures they serve are bold, colorful, and/or strong enough in contrast to maintain the eye's attention in such surroundings. These considerations are taken with the underlying care that shapes craftsmanship.

The word—perhaps the key word for this joiner's art—is with. We work with judgment and discretion to choose wood for a frame that will work with the picture. But craftsmanship, which is a matter of how well we work with things, also enters into it at this stage. How will the character of the wood help or hinder how we work it—what we can do with it to mill, profile, join, and carve or otherwise decorate, as well as finish the frame? Figured woods are prone to tearing out when planed or milled and are generally more troublesome to work. Will their character en-



● Rough stock lumber can offer more thickness and may be cheaper than its surfaced counterpart.





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hance or compete with decorative details you'll be adding?

The hardwood suppliers I use offer both surfaced and rough stock. Rough lumber's a little cheaper and you may be able to get a little more thickness from it. But the advantage of surfaced wood is that it's easier see the grain and any flaws as you select for the parts of your frame. First of all, we look out for knots and other imperfections, as well as sapwood—the lighter and softer layer toward the outside of the tree. Because sapwood in a live tree carries nutrients, it can host insects. This has traditionally inclined woodworkers to avoid it. Although today's kiln-dried lumber rarely contains insects, sapwood's more likely to contain residual wormholes. But if none of this puts you off, including sapwood in the frame should be done deliberately and with attention paid to its effect and how it's distributed around the frame. Don't count on being able to stain sapwood to match the heartwood. Unless your stain is a saturated black, this is more trouble than it's worth. (It can also become part of a bad habit of letting slide prob-



Planing a blank stick of moulding to its final width.

lems and flaws you tell yourself you'll deal with later.) For those starting out, my advice is to avoid sapwood.

I study the edges of the board as carefully as I do its faces. One thing I look for is checking and honeycombing—splits or cracks along the grain indicating that the lumber probably wasn't dried properly. After establishing that the sections of the board I'm going to use are sound, I "read" the grain—study its character with respect to how it's going to work. And here again what can be seen on the edges is as important as what the faces look like. In particular, I pay attention to the bias of the grain, and how consistent or "switchy" that bias is relative to the face of the board. Cutting tools used to shape the moulding will tear out the grain if and where they run against the grain (like petting a cat in the wrong direction). When profiling moulding by hand with moulding planes, this is crucial, but it also makes a difference when milling profiles by machine.

After I've selected my wood, I rough out the four



If you're already using raw hardwood moulding, hand-planing the surface can save time over sanding it, and is much more pleasant.

frame sides using the quartet of basic machines mentioned in my last article. With the first two members of that quartet, the chop saw and table saw, I cut the sticks out of a full board and mill them to rough length and width. Depending on the size of the frame, these pieces should generally be $1/8$ " to $1/4$ " wider than their final width; and depending on the length and severity of snipe left at the ends of your workpieces by your planer, they should be 4-8" longer than their final length.

Once I've roughed out my sides, I bring in the other two members of our quartet of machines, the jointer and planer, to mill my sticks flat, straight and square and to their final thickness and width. We can assume that the sticks rough cut from a board as it comes from the lumber yard are not straight and that the faces aren't square to the edges. And because it's probably not perfectly flat,

even a surfaced board is unlikely to yield parts at final thickness: flattening the parts (only possible by removing wood) also means making them thinner. Work as much as possible with the grain and aim at getting each piece accurately dimensioned, flat, straight and square. These careful measures will help produce the best results in later stages.

At this point, if you're making a plain flat or square molding, all you have left to do is to rabbet your sticks. (Rabbeting is usually my last step in profiling, in any case.) But of course, a huge part of the art of the frame is its vast and intriguing vocabulary of moulding profiles.

Traditionally, more elaborate profiles have been shaped using moulding planes and scraping tools, like scratch stocks and beading tools formed to produce specific profiles or profile elements. Molding profiles may be carved as well. For those dedicated to traditional woodworking and proficiency with hand tools, there is still a place for planes, beading tools, scratch stocks, and carving chisels in the modern commercial frame shop. Even a basic set of hand planes and a few hours of study and practice in using, sharpening, and maintaining them can be a wise investment. If you're already using raw hardwood moulding, hand-planing or scraping the surface can save time over sanding it, and is much more pleasant. But also, in a few minutes with a plane you can shape and add interest to a plain square stick of moulding. A simple chamfered, bevel, or cushion profile may be shaped with a smoothing plane. A rabbet plane can form fillets. Even if you're doing most of your profiling with a rip blade on a table saw, no matter how sharp the saw blade, the surface it leaves will need more finishing with hand planes, or you might carve it simply for the pleasing effect of the texture left by the gouge.

Nevertheless, while I firmly believe there is a place for such hand tool work in the modern frame shop, it will occur to any framer trying to make a living that machines might be a help. Machines are made to increase



● For profiles more complex than what can be made with the table saw and planer, I use moulding heads on the table saw.

efficiency, and their efficiency can't be denied. (And inefficiency is consistently denied by customers who won't pay for it!) Used wisely, machines need not sacrifice craftsmanship; they can enhance it. In my shop, we use machines for most of our profiling. But—cautious not to become the tools of our tools, to borrow Thoreau's famous words—the work those machines do we guide closely and directly, and it is work that could be done with hand tools but is faster with machines.

Simple shaping begins with a rip blade on the table saw. The possibilities here are endless—and great fun to explore! One tip, though: for many cuts,

like fillets and steps, you'll want a blade with flat top teeth.

Slopes, or bevels, can be made with the planer equipped with a sloping jig—a beveled board (which you can cut on the table saw by tilting the blade to, say, 10 degrees) laid in the bed of the planer. The surface should be smooth; plastic laminate's a good idea. A cleat attached along the low edge of the sloped board keeps the workpiece on the jig. Another cleat across the bottom of the jig where it overhangs the front edge of the planer bed keeps it from being pulled into the planer.

For profiles more complex than what can be made with the table saw and planer, I use moulding heads on the table saw. I consider this system to be the most practical (for a small custom shop) modern descendant of the moulding plane. Over the years I've had an array of molding knives made for me in 1, 1.5, and 2" widths, and use them on three different heads. The versatility of this system offers the adaptability called for in custom framing.



● Finding a balance between the use of hand tools and the use of machinery is key to creating beautiful frames efficiently.

Profiling with moulding heads can be as simple as adding a plain cove to the sight edge of a flat or slope, or raising a single bead to the back or sight edge of a flat. But it's also used to form the whole molding width into an ogee, cushion, dish, or cove, sometimes embellishing such overall forms with, for example, an ovolu at the back and a double bead and cove at the sight edge. Just part of a

knife profile may be used, or moldings can combine two or more knife patterns. By simply moving the table saw fence between cuts, a cove that goes to a flat section offers the option of drawing out the flat to make a wider molding. In this way, 2" knives can produce a 3" wide molding, or 3.25" if you like. Compared to molders and shapers, molding heads on the table saw are quick to set up. And the system doesn't require investment in a separate, dedicated machine. Finally, the large radius of the cutters produces a smoother surface than does a router or shaper.

Routers certainly have their place too. Mounted in a table (I recommend using the table extension that typically augments the classic cabinet-style table saw, where the saw's fence comes in handy), the router works as a small shaper. Partly because of the surface issue mentioned above, in my shop routers have a limited role in profiling.

In any case, the work machinery does is fairly coarse and only takes you so far toward the refined craftsmanship the art of the picture frame calls for. Hand planes and scrapers remain indispensable for clearing away mill marks left by machine blades and knives. In fact, no matter how much or how little you use them, hand tools are the basis of the craft—a point to keep in mind in the subsequent installments on technique. Fundamentally, they



● Slopes, or bevels, can be made with a planer equipped with a sloping jig—a beveled board laid in the bed of the planer.

instill an intuitive understanding of how all tools, including machines, interact with the wood. They are indispensable for creating that intimate connection to materials that every craft depends on—and the sensitivity and versatility necessary to custom work and, for that matter, every art.

Using hand tools may sound inefficient, but because they require very little setup time, when applied to low-volume produc-

tion, they can in fact be quite practical. Handwork is clean work you can do adjacent to your fitting area, or even in your showroom—a wonderful traditional arrangement for artisans that not only allows them to work while minding the shop, but also lets customers see for themselves the most valuable thing the business has to offer them: skill and craftsmanship. In the frame shop, it demonstrates that making picture frames is indeed an art. **PFM**



Timothy Holton

Timothy Holton is the owner of Holton Studio Frame-Makers in Berkeley, CA. A native Californian inspired by the art and architecture of his home state, Tim began his career in framing at Storey Framing in 1975. After earning a history degree and a brief career in live theater, Tim returned his attention to framing, honing the joining and carving skills that distinguish his work. After the Oakland Museum's contemporary artisan gallery displayed his work in 1993, he was spurred to open his own business, which now specializes in hand-carved hardwood frames built entirely in-house. Tim lives in Berkeley with his wife, Stephanie McCoy. They have an adult daughter, Ella.



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