

18th-Century Stock Preparation

Different goals allowed period woodworkers to surface boards quickly.

I'm building a standing desk for my shop. I need a place to do design work, store important papers and lay furniture books. I designed this desk using the process described in my last article. The completed design is available on my blog at artsandmysteries.com. In this article, I'll discuss the techniques I used to prepare my stock for this project.

Dressing stock by hand isn't hard work. The trick to doing it efficiently is forgetting everything you know about woodworking machines and just about everything you've read on the Internet.

Woodworking machines produce a consistent level of surface and dimensional quality. Trying to emulate machine quality by hand is a waste of time. Some boards need more attention, some need less; you need to sort them out before you start. It just doesn't make sense to have a "one-surface-fits-all" approach. Ninety percent of what I read on the Internet involves people trying to produce aerospace precision with their hand tools then complaining about how long it takes.

Believe it or not, I'm not judging these folks. It's a perfectly fine way to work wood if that's what you're into. But don't be fooled: This isn't how people worked in the 18th century. Let's take a look back at the evidence together.

Tools

There's little question about the tools used in 18th-century shops for surfacing stock. They

by Adam Cherubini

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Preparing stock by hand isn't nearly as difficult or awkward as this picture makes it look. Eighteenth-century craftsmen weren't stupid and they didn't need slave labor to build things. You can easily learn their tricks to working smarter, not harder. Then you'll be free of your masters: your planer, table saw and jointer.

Photos by the author

used a fore or jack plane for roughing, a long try plane for flattening and a smooth plane to achieve the finished surface. Anglo-American woodworkers in the 18th century did not use anything resembling a scrub plane. By the end of the century, finish carpenters called joiners used several long planes.

Technique

We know very little about the specific stock preparation techniques of the 18th century. We have two documentary sources written just before and just after the century: Joseph Moxon's "Mechanick Exercises" (1678) and Peter Nicholson's "The Mechanic's Companion" (1831). The techniques discussed are similar and would sound familiar to you. Anglo-American workmen probably started with jack or fore planes, followed with longer trying planes, then finished the surface with smoothing planes. They used winding sticks to detect twist in the faces of boards. They straightened edges with their long planes.

Stock

Eighteenth-century craftsmen purchased lumber much as commercial shops do today,



When I'm working wide stock for a carcase side, I don't worry if the stock is cupped or twisted a little. I can usually straighten the stock with the dovetails. If I tried to plane out a cup, I'd lose a lot of thickness and the cup would come back.



The basic tools for 18th-century stock preparation include these three planes: the try plane (left), jack or fore plane (middle) and the smoother (right). Eighteenth-century craftsmen undoubtedly valued planes that took coarse shavings. Modern plane makers have focused on making tools for smoothing regardless of their length or configuration. This approach is detrimental for basic hand-tool stock prep.

buying an entire tree's worth at a time. Pitsaw operations in the 18th-century were able to produce lumber in the same thicknesses and in roughly the same surface qualities as modern rough-sawn lumber. Craftsmen had no need to plane 2"-thick boards down to $\frac{3}{4}$ ".

Surface Quality

Extant surfaces vary from undressed, rough-sawn surfaces, to quite nicely smoothed surfaces. I've maintained that exterior surfaces were always fairer than interiors. Effort was placed where it had the most impact on the style-conscious public. But recent examinations are causing me to reconsider. Centuries of refinishing have caused exteriors to be smoother now than they were originally. Also, interiors of early Philadelphia mahog-



Williamsburg's housewrights, who include journeyman carpenter Ted Boscana, can quickly produce dimensional lumber with pitsaws. The surfaces produced with these saws are surprisingly comparable to those from modern band saw mills.

any pieces are surprisingly fair. It could be that both exterior and interior surfaces were given the exact same attention. But the John Townsend (of Goddard and Townsend fame) pieces I saw at the Metropolitan Museum of Art in New York last year clearly showed very rough interiors, backs and undersides. These pieces were made for very wealthy customers. Furniture with rough interiors does not necessarily correspond to second-quality furniture, nor second-quality shops. Judging from period furniture alone, it appears the effort expended on any given piece of wood varied



This is one of the legs for my desk. It will have mortises at the top and bottom so this stock cannot be twisted. The twist or wind must be removed. Winding sticks help me find where the board is twisted. Any two sticks will do. This is the next step in facing this leg stock.



Squaring-up is done with my long try plane. This is an important task easily done with hand tools. Sometimes I think folks only think about face planing (called facing) when designing and building their workbenches. Every bench should be designed to allow this basic operation.

regionally and according to its use in the finished product.

Facing

Facing is the term Nicholson used for flattening one side of a piece of stock. I begin with my fore plane, working in the direction of the grain. I often hold the plane askew or at a slight angle to the stroke. I like a lightweight wooden plane. I use my upper body to press down on the plane, controlling both the cut and the stock below it. My fore plane has a cambered blade which takes a thick, but narrow (1") shaving. It will remove rough saw marks quickly, but leaves shallow troughs in

the face of the stock. These are acceptable for the insides of my furniture, but I like the exteriors smoother. Depending on the piece, I'll either use my smoother next, or my try plane followed by the smoother. A wide carcass side needs to be smooth but perfect flatness usually isn't required. Legs such as those for this desk need to be worked straight with the try plane. If they are not straight, you'll be able to notice it from a long way away, and I'll also have problems with my joinery.

Shooting

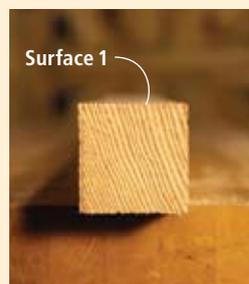
In the modern lexicon, shooting an edge usually involves holding a plane on its side. But



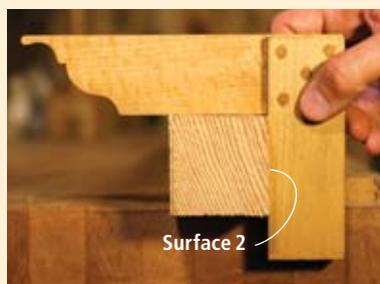
This may not look like a big deal, but this is as hard as it gets. This stock is 2 7/8" thick, and 60" long. I had to flip it over periodically to keep this cut square. It took me almost 10 minutes to complete this cut. Material one-third this thickness would probably take me two minutes.

both Moxon and Nicholson use the term more generally. For them and likely all English-speaking 18th-century craftsmen, shooting meant edge straightening. In my shop, this is done with the board held on edge and typically completed in less than a minute with my try plane. I'm not getting aerospace tolerances in one minute. But a perfectly straight edge is rarely required. I square and straighten simul-

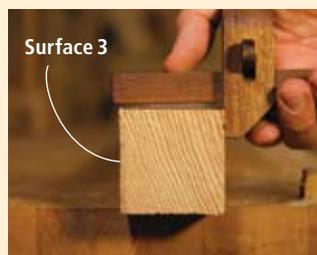
TRYING UP STOCK



Faced: Surface 1 is faced, or flattened. Wind is removed.



Squared-up: Surface 2 is squared to surface 1.



Gauging: The stock is made parallel in width by gauging from surface 2 to surface 3. Plane or saw to the gauged line. Then square to surface 1.



Tried-up: Surface 4 is made parallel to surface 1 by gauging right and left sides and planing or sawing to the gauged line.

taneously. It's a trick you probably know. Like my fore plane, my try plane has a curved blade. By positioning the plane side to side, I can take off a wedge-shaped shaving. But again, I don't typically need a perfectly square edge.

Ripping

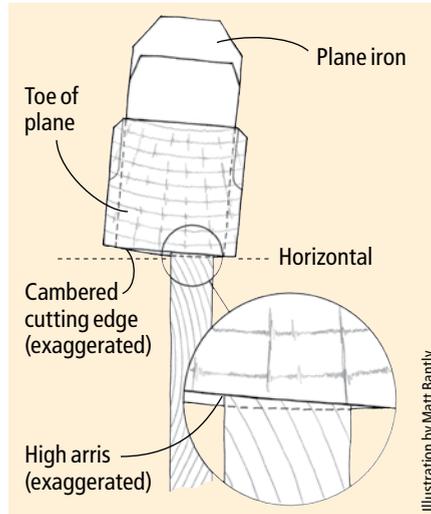
With one face flattened and one edge straightened and squared, the stock is said to be squared. This is the time to do any ripping required. Ripping thin stock is easily done with a good saw in a matter of a few moments. I tend to leave the line, as shooting the ripped edge will be required anyway and is very quick work. Ripping thick stock is more difficult physically. Variations in the angle of the cut are magnified due to the thickness so it's more difficult technically. What I do is mark both sides and flip the board over every six or so inches. In time, you will master a perfectly plumb rip. In the meantime, or whenever your stock is very thick, I recommend flipping the board over.

Tried Up

Stock that has had its four long-grain sides squared was called tried or tried-up in the 18th century. Though I typically remove the saw or planer marks, I very rarely try-up or "four square" my stock. The degree to which I four square stock varies according to the needs of the project. In this case, only the inside faces are mating surfaces. But I'd like my carcass to be flush with the outside faces. So I'm stuck cleaning up all four sides.

Crosscuts and End Grain

Eighteenth-century craftsmen had planes they used to clean up end grain. They were called strike or straight blocks. But frankly, I don't like them. No matter what, planing end grain will always be a problem. For this reason, I prefer to do my crosscut sawing very carefully and as accurately as possible to limit the amount of planing I have to do. Crosscutting is usually the last thing I do before I start the joinery. I have long suspected that once that fresh end grain is exposed from the center of some long board, the board will move. End grain is very often covered in all sorts of traditional woodworking. Because glue joints involving end grain don't work well, it's rare to find end-grain glue joints. For this reason, these surfaces often needn't be perfect.



My try plane has a cambered or curved iron. The resulting shaving is thickest in the middle and thin at either edge. By centering the plane on one edge of the board, I can remove a wedge-shaped shaving. This saves me from having to hold my plane perfectly level.

Conclusion

The wide range of surface treatments found on any given 18th-century piece of furniture, indicates period craftsmen planed their stock with each piece's specific use in mind. While modern woodworkers, willing to use hand tools, have focused their attention on getting "the most" from their planes (which usually means the finest shavings), a look back tells us period craftsmen were instead focused on getting "the least." Like our approach of optimizing our planes and developing our techniques to produce flawless hand-worked surfaces, period craftsmen clearly optimized their tools and developed their techniques to produce surfaces that we might consider barely acceptable.

From my perspective, both approaches are equally valid and are equally challenging. They are, as the poet said, like two roads diverging in the woods. But I can tell you what's ahead along the road less traveled: For me, 18th-century stock preparation is not a collection of techniques, but rather an opportunity for me to express my wit and judgment and experience. The resulting surfaces are like footprints on a path; a record of my passing. I know preparing stock with machines requires less effort. But the well-trod road leaves no trace of those who've traveled it. So is it worth taking? **PW**

TIPS FROM A POWER PLANER

- **Go with the grain.** When the grain turns on you, turn the board or turn the plane. Western planes can be pulled quite nicely, thank you.
- **Open your mouth and take a big bite.** A plane's tight mouth limits the size of shaving you can take. Tight mouths are good for finishing but bad if you want to remove material quickly.
- **Long planes make things straight.** Put away your straightedges and learn to trust your long planes.
- **Lower your bench.** A bench whose top is beneath your palms allows you to get your upper body over the work, using your upper body weight to provide pressure and control.
- **Don't get caught up in Planeaholics Anonymous.** Skip the Internet pundits, and get the cheapest plane you can find. The skills you develop getting it working will be invaluable later. If you can make a \$5 flea-market special work, you've earned the bronze-bodied beauty you've been wanting. Of course you could end up like me – still using the \$5 plane!

