

The Adventure of the Six Board Chest

My First Dovetails

Text by William Johnston

“As the board proceeded through the planer we knew something was wrong ... bad wrong.”

My good friend John wanted to build an early American style six board chest as a toy box for his niece. These were usually made of six wide boards, sides dovetailed together, with no or limited molding or edge treatment. They were almost always made of pine. The finish would be natural or sometimes home made milk paint would be applied. Sometimes they would be decorated with paint forming patterns, fake wood grain, or other designs. Since wide boards were available in colonial America and gluing up was unreliable using glues of the time, the colonials did not glue up of the boards.

John wanted his chest to be made of wide sugar pine, without glue up, requiring 18 inch wide boards. He wanted to join to boards with traditional hand cut through dovetails. John called me one evening.

“Bill, do you know how to hand cut through dovetails?” I said I did and invited him to tell me what he was planning. Actually, I had no idea how to hand cut dovetails. I had made dovetails with a router and template. An opportunity to practice on someone else’s wood, though, was enticing! John was to come over the next day for a trip to the mill.

Now, at this time, some 30 years ago, *Fine Woodworking* magazine was in its first couple of years of publication. I had a subscription since day one. As I recalled, this guy named Tage Frid had written about hand cut dovetails. He cut them with a 3 foot long bow saw ... could you believe! I dug out my *Fine Woodworking* for a quick learn.

John came over and we headed for the mill ... a 45 minute drive into the country from Farmington, Michigan. They had 18-22 inch wide sugar pine stored in a back barn that chickens use to haunt. Can you believe 18 – 22 inch wide boards? Now this wood was not cheap. There was a premium due to width and sugar pine cost as much as many exotic hardwoods. They were 16 to 18 feet long. We only need a single plank for our project. We pulled a good one out and headed for the millers shop. As I recall there was minimum cup and no twist ... good board.

The miller with any wood would first flatten one side of the board to take out any cup. He did this on a very long 24 inch wide jointer. Following jointing he would run the board through a 36 inch wide planer.

As the board proceeded through the planer we knew something was wrong ... bad wrong. Imagine the sound while standing in a tin plated steel sided shed while small boys threw baseballs at the side. This was the dreadful sound of large knots going up the chip exhaust to a hopper outside the building.

This wonderful board came out of the planer looking like Swiss cheese. Every knot, plentiful in sugar pine, had pulled out. Sadness and dismay set in. On second thought we should have knocked the knots out before surfacing, noted their location, and glued them back in, sanding them down to size.

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The Ideal Mill

What would you expect from the ideal woodworkers mill ... a place to purchase the wood, wood products, and the services that you can not do yourself?

My ideal mill was located in a rural area of Michigan; about 45 minutes drive from my home, at the time, in Farmington. It was my first encounter with a hardwood supplier and the best. It began some 30 years ago.

The mill was on a heavily traveled, rural road. There was the generations’ old farmhouse beside the road and the nearby the workshop where wood was stored, planed, and milled. Several additional barns stored a wide variety of domestic and exotic wood. I haven’t been back in 20 years, since moving to Kansas. My fear is that the road is now 4 lanes and has absorbed the little farmhouse, shop, extensive barns, and the business.

This was a father/son business. By the time I started shopping there, the father was nearing retirement and was seen less and less. When I visited, there was usually a boy working sweeping up the shop. From the size of the operation, you might have expected a number of workers stacking lumber that was brought in and performing the milling operations. If so, I never saw them.

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My First Dovetails ... Continued

The miller apologized, said he should have told us. We listened carefully, but he didn't say, "Go get another board".

John and I went back to my tiny basement shop to stare at the board and plan our next move. Tage hadn't said anything about this!

We planned our cuts to eliminate as many knot holes as possible as waste and to make sure that no knot holes were on the edges to be joined. The worst holes were to be located on the bottom, back, and ends in that order.

We figured loose knots were also a problem of the colonial American and asked ourselves what he would have done. The answer was to inlay a square patch. So this we did. The patch would now be part of the chest's 'character'.

Now we had to face the music of actually cutting the dovetails. We proceeded to cut the tails first. Actually, at the time we did not know what was tails and what was pens. I not sure anyone can still really state this for certain. But we started with the tails. Now I define the pens as the part of the joint that you can cut with a router using a through cut. With a hand saw, you can gang the four sides together and cut the pens all at the same time. Can you believe we cut the tails first.

And well we cut them. First cut with the grain with a back saw and finally chop out the end grain a chisel. We did well. They looked good.

Next we cut the first set of pens. Of course we had to set the long board (about 3 feet) vertically onto the side piece to mark the pens. This turned out well. The pens looked nice. With a little trimming in the soft pine the first set of pens and tails fit very nicely from our amateur viewpoint. We were pleased. We completed the pens on the second side. They fit nice also.

But something was bad wrong. We should have been able to assemble three side of a box ... one side open as yet uncut. But no, we formed a "Z". We had cut the tails opposite what they should have been. They weren't forming a square ... we had a zigzag!

Nothing to do but cut $\frac{3}{4}$ inch off the end of the side and start those tails over.

The rest of the chest went well including wooden hinges. John took his chest home to do some carving and put on the finish.

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The Ideal Mill ... continued

Often the wood was 12 to 16 feet long, so cutting it down to rough length was often necessary for transport. This required pre-planning. I usually hauled my wood as long as possible in a 4 door (company) car. The long planks were placed in the rear window, passenger side, and down the inside of the front passenger door to the floorboard. This means that they stuck out the top right of the car at a 45 degree angle for as much as 10 feet. I had to be careful going around rural curves so as not to "take out" any road fixtures.

Saturday mornings were not a good time to purchase wood ... certainly not if you required surfacing. Everyone was there on Saturday mornings. It was much better to visit during the week and take your time. The miller would take your plank, joint one side flat on a wide jointer ... 24 inches as I recall. Following jointing he would plane it for you and cut it to length, if requested. Shavings went up a ductwork to a hopper outside. It looked much like a water tower. I suspect was actually a common hopper originally for storing grain. A pickup or other truck could pull under the hopper and with the pull of a chain, empty the shavings into the bed for disposal.

Another way to purchase wood was to call ahead. This took the most planning, but afterward it was painless. I would give the miller the rough (slightly oversize) cut dimensions. I would later pick up my wood, surfaced 4 sides, to the width and length specified. If my planning was well done, it was almost like buying a kit. Almost always the stock was extremely well selected for quality and final use, often better than I could select myself. If you wanted wide pieces (over 10.25 inches for most stock) the miller would custom glue up the stock to size and surface it. These services were, as you might suspect, much more expensive. But you had the advantage of ease of transport and less time spent at the mill. Considering the waste in milling wood from scratch and working around splits & twists this process was actually much more cost efficient than it appeared.

Services were available in addition to gluing up for width to glue up for thickness as well. The mill created a number of these "butcher block" pieces for customers on a regular basis. If you needed a "component part" or fixture that was beyond your skills or your tools, the miller could create this for you.

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My First Dovetails Continued

A year before, John and I had taken a course in woodcarving at Greenfield Village from a retired patternmaker who taught me to sharpen chisels, but that's another story. John wanted to complete a relief carving on the front of the box. It was to a large German "H" for Heather, his niece, fourth generation family whose ancestors settled in northern Michigan. The "H" was to have feet, large German feet for each leg of the "H" to walk on.

When I went over to John's house to see the chest with the relief carved "H" there was **something dreadfully wrong** ... you could see it on the chest and on John's face. You see, John waited to put on the lid with the wooden hinges until after he finished the relief carving. To make it simple he turned the chest upside down so as to use the bottom for his carving tools. Now John's feet were carved on the top ... where feet do not go, as we well know.

... and so goes the adventure of the six board chest.

The Ideal Mill ... continued

Once I needed a custom molding out of butternut for a grandfather clock. If the miller had the molding cutter I needed, and he had an extensive assortment, he would run off the length you needed for a nominal cost per foot plus a substantial setup fee. He would order a cutter for you. You paid for the cutter, setup fee, and the per foot fee. This could run a considerable sum but you got the molding you wanted out of the wood of your choice, often not be available elsewhere.

One time I asked the miller if he would take a check. He said, "sure". I asked, "aren't you concerned that people will give you a bad check?" He replied, "People who are going to do this much work aren't 'bums'".

Back at that time yellow glue had just been introduced and was only available in large drums for industrial use. The miller was aware of its short shelf life but his flow of business in 'gluing up' allowed these drum size purchase. If you brought in a suitable bottle he would fill it up for you with this 'wonderful' new yellow glue for a modest charge.

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