

Building a Common Press: Or, My Excellent Sabbatical Adventure

--By Jeff Groves--

Report 3 (April 2012), in which our author balances real progress made against considerable work yet to do.



The View from My Garage

When last I wrote, I suggested that my next report would show some significant progress, that you would be able to see not just an assemblage of roughly sized press parts, as in the photo above, but the standing frame of an eighteenth-century common press. Given that virtually everything in this project so far has taken MUCH more time than I expected it would—from finding vintage wood, to sizing the wood, to cutting, carving, planing, drilling, and shaping the various pieces—I wondered whether I would be able to live up to that prediction, to display for your aesthetic and historical delectation something that had begun to look like the machine on which it is modeled.

Dear Reader, turn the digital page....



Ta-Dah!

Not bad, huh? Several days ago, my friend and colleague Jim Eckert helped me set the cheeks (the tall bits) in the feet and install the cap on the cheeks (always helpful to have a tall person around). Since then, I've taken the whole thing apart again to adjust the cheek tenons for a better fit in the feet mortises, and I've finished out and attached the hind-rail assembly. And gee, it's actually starting to look like a press! To remind you of the original of my replica, here's the Isaiah Thomas press that I studied last fall:



(The Isaiah Thomas press, American Antiquarian Society, Worcester, Massachusetts; photo by the author.)

In a 1796 inventory, Thomas listed this press as “1 English press, old—‘No. 1’” (*Old “No. 1,”* 1). I may just start referring to mine as “No. 2”! Recalling my last report, filed about six weeks ago, the obvious question is how did all that roughed-out lumber take on such (in my humble opinion) handsome stature? That’s the story of many hours in my garage, working on the parts detailed below.



Cheeks

I’ve not yet started the winter and the head, which are going to be difficult in a number of respects, but otherwise these two pieces, the main upright elements in the press, were the most challenging and time-consuming parts to carve. I had just roughed out the off-side cheek when I wrote my last report. The near-side cheek proved easier than the first, both conceptually and experientially, but it still took me probably another week to finish. (I reckon, by the way, that my average time per week on the press project has been something like twenty hours since last November.) I’m very happy with the way the cheeks turned out, but if I had another set to carve, I could do a more polished job. I learned a lot about how to use a chisel and how to “feel” the wood in working those pieces of elm.

Feet and Cross Members





Each of the feet contains four mortises, which I drilled out first and then finished with a chisel and rasp. Each mortise is drilled for pegging. The old wood for these pieces had been used in some kind of structure, perhaps a barn. It had a fair amount of the cracking that often develops in oak as it dries. As I began to drill and chisel away at the wood, I was nervous that I might cause some of these cracks to expand, but they didn't budge. Given that I needed to create tight fits between tenons and mortises, the stability in this old oak gives me new respect for Joseph Moxon's seventeenth-century injunction that "all the Fram'd Wooden-work of a Press [should be] made of Good, Fine, Clean, Well-season'd Oak" (49).



Iron Work

It hasn't all been wood: I've been doing some iron work along the way as well. I showed a few of these pieces in an earlier report, most notably the spindle and nut that Harvey Mudd College machinist extraordinaire Paul Stovall built for me. (Paul is currently working on a few more pieces for the hose assembly.) But here you can see most of the iron work for the press. What I haven't built yet is the brass oil cup and the hardware for the tympan and frisket assembly (together they hold the paper in place), including four hinges for that assembly that will be challenging to create. The piece I'm happiest with here is the bar, seen sticking through the slot in the spindle. It turned out very well, and using my mother's oxygen-acetylene torch (every mother should have one) to heat the steel, I managed to get very close to the bends and angles in the bar of the Thomas press. The two long, threaded pieces near the center of the photo are the head bolts, which I'll mention in the next section.



Cap

The cap, which sits atop the cheeks and locks them in place with four mortise-and-tenon joints, was a little tricky, less so for the difficulties of construction than for my inability to find a single piece of hardwood of the correct dimensions. In the end, I laminated two pieces of white oak together, then routed the decorative edging and carved the four mortises. While the cap is currently fitted on the press, it isn't finished yet—once I've drilled the holes for the head bolts in the head, I will need to drill corresponding holes in the cap.



Hind-Rail Assembly

If you look back to the image of the Thomas press, you'll note that the hind-rail assembly I built doesn't look very much like the one in the photograph. Here are the reasons why I designed the assembly as I did, rather than strictly following the current design of the Thomas press.

First, it's not clear what the hind-rail assembly (and the forestay, for that matter) looked like on the press that Thomas listed in his 1796 inventory. In an 1830 codicil to his will, Thomas instructed his grandson to assemble and fix the press for the American Antiquarian Society. Some worn, worm-eaten, or missing parts may have been replaced at that time. In 1876, the press was loaned to A.C. Campbell, a press manufacturer, for a display at the Centennial Exhibition in Philadelphia. Repairs were made to the press at this time, and it is likely that the hind-rail assembly and forestay were replaced. In 1975, restorers of the press seem to have retained the 1876 hind-rail assembly, but they replaced the forestay. In 1977, conservators replaced both the hind-rail assembly and the forestay with new pieces modeled on the James Franklin press (now resident at the Newport Historical Society, Rhode Island), which is strikingly similar in many ways to the Thomas press. (American Antiquarian Society Press-Restoration Folders; AAS and Clinton Sisson Correspondence Folder; *Old "No. 1"*, [5], [19].)

Second, the hind-rail assembly is structurally important to the press in two ways. Once the carriage is installed, it fits snugly against the lower hind rail, an arrangement that helps to keep the carriage from moving when the bed is rolled in and out of the press. The hind-rail assembly also "boxes out" the cheeks of the press, which helps the press to resist the twisting motion of the screw when the press is in

operation. In an eighteenth-century installation, however, that twisting motion would have been more potently resisted by two other practices: nailing the feet of the press to the floor of the shop, and using long boards to connect the cap of the press to the rafters of the shop. In this way, the building that contained the press became part of the press's structure and helped to stabilize the machine during operation. Ever so sadly, the Claremont Colleges Library seems hesitant to allow me to nail the press to the floor or lag it to the ceiling of the Special Collections Reading Room—more on the implications of that below.

Third, I must admit that the design is an aesthetic choice on my part. I was actually looking forward to turning replica hind posts on my lathe, but the more I considered the relationship of that rather ornate design to the simply ornamented cheeks, the more the turned posts seemed out of place to me. After much thought, I decided to echo the cheeks in the hind posts, making the latter a smaller-scale version of the former and ornamenting the posts with the same routed bead that I had used on the cheeks.

Going back to the problem of stabilizing the press during operation, I've also tried to make the hind-rail assembly more rigid than in the original to compensate for not being able to tie the press to the ceiling. I've done this by carefully fitting the rails to the hind posts in sawed joints, and then using threaded brass inserts and brass screws to secure the rails in place. The original would have had mortise-and-tenon joints throughout secured with pegs. Before I finish, I will also increase the shear strength of the hind-post assembly by using some of my left-over wood to build a shelf that will be doweled into the top of the assembly. With this panel in place and with tenons pegged, the framework of the assembly should be quite rigid.

What Remains

The next step is to fashion the winter of the press (the winter supports the carriage and helps hold the cheeks in parallel). The dovetail tenons of the winter fit into the mortises at the top and bottom of the cheeks, and carving the tenons is going to be slow, careful work. With the winter installed, I will then temporarily peg all of the tenons in the cheeks and hind-rail assembly so that the press will be completely stable as I fit the other parts. I'll then carve the head, which will be time consuming: not only does it have the same dovetail tenons as the winter, but it also needs to be fitted to the nut, to the nut bolts, and to the head bolts. After that, the carriage assembly, the hose and platen, the coffin, the tympan and frisket, hanging the platen—the fun never ends! That's what it's beginning to feel like, anyway.

Until Next Time

As always, many thanks, Dear Reader, for perusing my report. In my next descriptive effusion—probably a month or so from now—I hope to show you a nearly complete press. There will still be work to do and parts to construct, I'm sure, but honestly, I've got to finish this thing. I take over as Dean of Faculty at my college on July 1, and I'll have little time after that to work on the fabrication of an eighteenth-century machine. So why am I tarrying here? Look for me in the garage!

Sources

American Antiquarian Society Press-Restoration Folders, "AAS Thomas, Isaiah. Press Restoration."

American Antiquarian Society, Clinton Sisson Correspondence Folder.

Joseph Moxon, *Mechanick Exercises on the Whole Art of Printing (1683–4)*, ed. Herbert Davis and Harry Carter (New York: Dover Publications, 1978).

Old "No. 1": The Story of Isaiah Thomas & His Printing Press (Worcester, MA: American Antiquarian Society, 1989).